ESRI Training and Education

Learn from the World Leader in GIS

Instructor-Led Courses • Web Courses

COURSE CATALOG

Dear Colleague:

As a geographic information system (GIS) professional, you may be thinking about the educational goals you want to achieve. Our focus is to help you become a successful ESRI software user by providing a supportive learning environment.

Whether you use GIS technology to make communities more livable and efficient, improve human health, mitigate social conflicts, or perform countless other vital tasks every day, you are growing GIS into new applications. It is your dedication and hard work that is truly making a difference in many fields and creating a more sustainable world. Be assured that you can depend on ESRI for the educational support you need to help you maximize your software investment and ensure that your GIS efforts continue to make significant contributions toward better management of our planet.

Warm regards,

Jack Dangermond
President

About ESRI

On any given day, more than one million people around the world use ESRI® GIS technology to improve the way their organizations conduct business. Founded in 1969, ESRI's GIS solutions have emerged as an integral component in nearly every type of business and government service. Headquartered in Redlands, California, ESRI has offices throughout the United States; a business partner program with more than 2,000 developers, consultants, resellers, and data providers; and a network of more than 80 international distributors with users in more than 150 countries. Each year, ESRI invests nearly 20 percent of its revenues in research and development and continues to set industry standards by developing software solutions using the latest programming and Internet technologies.

The combination of vision, business management, and a focus on customers has made ESRI the leader of the GIS software industry.

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Prices are subject to change.

About ESRI Training and Education Solutions

ESRI instructor-led and self-study courses are eligible for educational achievement points awarded by the GIS Certification Institute (GISCI). Upon completion of an ESRI training course, you may submit your course completion certificates to GISCI for verification. For more information about this program, please visit **www.gisci.org**.

Training and education are vital to every successful GIS implementation, yet keeping GIS skills and knowledge up to date can be a challenge. Also, different people have distinct learning styles and training goals. To meet these diverse needs, ESRI offers a variety of training opportunities, both in the classroom and over the Internet.

Today, ESRI training supports hundreds of thousands of GIS students and professionals. ESRI instructor-led courses are offered at client facilities and ESRI learning centers across the United States as well as over the Internet. ESRI is a leader in GIS training and education on the Web, providing self-study GIS courses and a comprehensive library of GIS literature. ESRI closely monitors new training innovations in order to offer creative and cost-effective solutions to users. Instructional Series podcasts are the latest solution for free ESRI training on demand. To learn more about ESRI training and education solutions and to subscribe to our free e-newsletter, visit **www.esri.com/training**.

Instructor-Led and Self-Study Training Available from ESRI

	Training Format	Description	Benefits
Instructor-Led	Instructor-Led Course **IL**	Lectures and hands-on exercises presented in a traditional classroom. Instructors are available for questions and guidance throughout the class. All course materials and software are provided.	• Fastest way to get up and running • Interaction with an instructor and other students • Focused time in a classroom setting
Instructor-Led	Instructor-Led Virtual Classroom Course **ILV**	Lectures and hands-on exercises presented in an interactive classroom on the Internet. The instructor and students interact through the telephone and typed messages. The instructor is available for questions and guidance throughout the class. All course materials and software are provided.	• All the benefits of an instructor-led course, but on the Internet • No need to travel
Instructor-Led	Instructor-Led Course Offered by Professional Services **IL-PS**	Instructor-led training by ESRI Professional Services staff who design and teach courses for specific industry solutions or products. The format varies from course to course.	• All the benefits of an instructor-led course • Customized solutions for specific customer requests
Self-Study	Virtual Campus Web Course **W**	Written concepts, hands-on software exercises, and an exam that students complete over the Internet at their own pace. Some courses include a recorded lecture and software presentation, which require a broadband connection. Students must have access to the software to complete the course exercises.	• Self-paced, available 24/7 • Rich, in-depth training • Independent study
Self-Study	Virtual Campus Training Seminar **TS**	A free recorded lecture and software presentation delivered over the Internet. A broadband connection is required.	• No cost • Self-paced, available 24/7 • Short, focused training with recorded presentation
Self-Study	Instructional Series Podcast	A free, short audio recording on a specific topic delivered by an ESRI subject matter expert. Podcasts can be listened to online or downloaded to an MP3 player.	• No cost • Self-paced, available 24/7 • Short, focused training

Instructor-Led Training

ESRI offers a variety of instructor-led courses that explain GIS concepts, explore GIS applications, and teach how to use ESRI GIS software and related technologies. ESRI instructor-led courses are taught at numerous learning centers in the United States including ESRI's corporate headquarters in Redlands, California, and at regional office locations. See pages 64–67 for a listing. Courses can also be hosted at individual client sites, allowing ESRI to bring training directly to you. Students taking instructor-led courses receive lecture and exercise books and exercise data in digital format and earn an official ESRI certificate of completion. For more information, visit **www.esri.com/training**.

Virtual Classroom

The Virtual Classroom combines the focus of an instructor-led course with the convenience of Web-based training. You can remain productive while you learn, and your organization can save on the costs associated with employee travel. Small class sizes support communication among students and the instructor. Access to the latest ESRI software via Citrix® and the ability to ask questions and get answers in real time make for a complete training experience. For more information, visit **www.esri.com/virtualclassroom**.

ESRI Virtual Campus Web-Based Training

Since 1998, ESRI Virtual Campus has offered affordable, high-quality GIS training and education over the Internet. Today, there are hundreds of thousands of Virtual Campus students located around the world, working in a variety of industries. Virtual Campus Web courses teach a variety of topics related to ESRI software, the theory underlying GIS technology, and the application of GIS tools to find solutions in particular fields.

Some Web courses include downloadable trial editions of ESRI software, and many offer the first learning module free of charge. To see a list of free learning modules, visit **www.esri.com/training/free**.

Free Live Training Seminars

No-cost live training seminars feature presentations and demonstrations on focused topics by subject matter experts. You can ask the presenter questions and get answers in real time. Visit **www.esri.com/lts** for a schedule of upcoming seminars.

Instructional Series Podcasts

Instructional Series podcasts provide free ESRI software training on demand. In each podcast, an expert discusses a topic such as improving workflow, tricks for optimizing a geodatabase, and updates on new software features. New podcasts are published often. Visit **www.esri.com/podcasts** for more information and to subscribe to the podcast feed to be notified when new content is available.

For the latest class schedules and detailed course descriptions, visit **www.esri.com/training**.

Getting Started with ESRI Software

ESRI offers an integrated collection of GIS software products for building a complete GIS. ArcGIS® is the family of products that enables organizations to deploy GIS functionality wherever it is needed—in desktops, servers, or custom applications; over the Web; or in the field. ESRI products are grouped into the following main categories: desktop GIS and server GIS.

Desktop GIS is used to visualize, create, edit, and analyze geographic data on the desktop and create professional-quality maps, reports, and graphs.

ArcGIS Desktop is used to discover patterns, relationships, and trends in your data that are not readily apparent in databases, spreadsheets, or statistical packages. ArcGIS Desktop gives you the power to manage and integrate data, perform advanced analysis, model and automate workflows, and display results. If you need to get started with ArcGIS Desktop software, the following courses are recommended:

▸ **ArcGIS Desktop I: Getting Started with GIS**—For those with no prior GIS education or workplace experience with GIS who want to learn fundamental GIS concepts and basic ArcGIS skills (Those interested in Web-based training should take *Getting Started with GIS.*)

▸ **ArcGIS Desktop II: Tools and Functionality**—For those who have an education in GIS or workplace experience with GIS but no ArcGIS software experience and who want to learn the range of ArcGIS functionality and basic ArcGIS skills (Those working in geospatial intelligence or law enforcement organizations should take *Introduction to ArcGIS for Geospatial Intelligence and Law Enforcement.* Those interested in Web-based training should take *Learning ArcGIS Desktop.*)

▸ **ArcGIS Desktop III: GIS Workflows and Analysis**—For those who want to extend their basic ArcGIS skills in the areas of data creation and editing, geoprocessing models, and GIS analysis

Server GIS allows GIS capabilities to be delivered to large numbers of users over networks.

ArcGIS Server software allows GIS analysts to author maps, globes, and geoprocessing tasks on their desktops and publish them via a server using integrated tools. GIS functions can then be delivered as services throughout the enterprise. ESRI server GIS is IT-compliant and interoperable with other enterprise software such as customer resource management (CRM) and enterprise resource planning (ERP) systems. If you need to get started with ArcGIS Server, the following courses are recommended:

▸ **Introduction to ArcGIS Server**—For GIS professionals who are experienced with ArcGIS Desktop software and who want to learn how to share their work as maps, globes, or geoprocessing tasks

▸ **ArcGIS Server: Web Administration Using the Microsoft® .NET Framework**—For IT administrators who will be responsible for setting up and supporting an ArcGIS Server implementation

▸ **Developing Applications with ArcGIS Server (Using the Java™ Platform or Using the Microsoft .NET Framework)**—For developers who want to customize or extend ArcGIS Server applications or add ArcGIS Server functionality to other applications

For a complete list of ESRI training courses, see the table of contents on pages 2–3 or visit **www.esri.com/training**.

Course Title

ArcGIS Desktop I: Getting Started with GIS

IL 🌀 Two days (16 hours)

Course Length

Overview

This course provides the foundation for understanding what GIS
is, what it can do, and why so many organizations are using it. You
will learn the basic functions of a GIS, the properties of GIS maps,
why a GIS database is powerful, and what coordinate systems
and map projections are and why they are important. In course
exercises, you will work with ArcMap™ to visualize geographic data,
create maps, query a GIS database, perform spatial analysis using
common analysis tools, and solve geographic problems using a
systematic approach. This course teaches the skills and knowledge
needed to take other ArcGIS® Desktop courses.

Course Description

This course is designed for those who are new to GIS and ArcGIS.

Goals

After completing this course, you will be able to

Become proficient in many
tasks that you can apply to your
own job and projects.

- Explain what a GIS is and what it can do.

- Work with and create GIS maps in ArcMap.

- Access and query a GIS database.

- Describe two common GIS data structures.

- Explain what geographic data is, how it is made,
  and where to get it.

- Explain what spatial analysis is and solve geographic problems
  using ArcGIS analysis tools.

Price

ESRI Site: $980 (per seat)

Client Site: $7,640 (per class, up to 12 students)

Prerequisites and recommendations

Knowledge of Windows-based software for basic file management
and browsing is required.

Knowledge and skills you should
have prior to taking the course.

ArcGIS Desktop I: Getting Started with GIS
IL ⟳ Two days (16 hours)

Overview
This course provides the foundation for understanding what GIS is, what it can do, and why so many organizations are using it. You will learn the basic functions of a GIS, the properties of GIS maps, why a GIS database is powerful, and what coordinate systems and map projections are and why they are important. In course exercises, you will work with ArcMap™ to visualize geographic data, create maps, query a GIS database, perform spatial analysis using common analysis tools, and solve geographic problems using a systematic approach. This course teaches the skills and knowledge needed to take other ArcGIS® Desktop courses.

This course is designed for those who are new to GIS and ArcGIS.

Goals
After completing this course, you will be able to

- Explain what a GIS is and what it can do.
- Work with and create GIS maps in ArcMap.
- Access and query a GIS database.
- Describe two common GIS data structures.
- Explain what geographic data is, how it is made, and where to get it.
- Explain what spatial analysis is and solve geographic problems using ArcGIS analysis tools.

Price
ESRI Site: $980 (per seat)

Client Site: $7,640 (per class, up to 12 students)

Prerequisites and recommendations
Knowledge of Windows-based software for basic file management and browsing is required.

ArcGIS Desktop II: Tools and Functionality
IL ⟳ Three days (24 hours)

Overview
ArcGIS® Desktop software is an integrated system that includes all the tools needed to get the most out of a GIS. This course teaches the range of functionality available in the software and the essential tools for visualizing, creating, managing, and analyzing geographic data. The hands-on course exercises emphasize practice with ArcMap™ and ArcCatalog™ (the primary applications included with ArcGIS Desktop software) to perform common GIS tasks and workflows. The tools for creating and managing geographic data, displaying data on maps in different ways, and combining and analyzing data to discover patterns and relationships are highlighted, and you will learn how ArcGIS Desktop provides a complete GIS software solution. By the end of the course, you will be prepared to start working with the software on your own.

This course is designed for those with an education in or workplace experience with GIS but no ArcGIS software experience. This course assumes knowledge of basic GIS concepts. Those without a background in GIS should first take *ArcGIS Desktop I: Getting Started with GIS.*

Goals
After completing this course, you will be able to

- Identify which ArcGIS Desktop application is used for common GIS tasks.
- Understand what the geodatabase offers for GIS data storage.
- Create and edit geodatabase features.
- Control the appearance and display of data layers in ArcMap.
- Classify and symbolize map data.
- Label map features.
- Change the coordinate system and map projection used to display a dataset.
- Access feature information in tables and control table display properties.
- Query and analyze GIS data.
- Build a simple model to automate a GIS analysis workflow.
- Create presentation-quality maps and graphs.

Price
ESRI Site: $1,470 (per seat)

Client Site: $11,460 (per class, up to 12 students)

Prerequisites and recommendations
Completion of *ArcGIS Desktop I: Getting Started with GIS* or equivalent knowledge is required.

IL Instructor-Led   ILV Virtual Classroom   IL-PS Instructor-Led (Professional Services)   W Web   ⟳ Learning Pathway

ArcGIS Desktop III: GIS Workflows and Analysis
IL ⟲ Two days (16 hours)

Overview
Understanding how and when to apply ArcGIS® tools and functions is the key to creating an efficient GIS workflow. Building on the skills and knowledge taught in *ArcGIS Desktop II: Tools and Functionality,* this course shows how to apply ArcGIS tools in a workflow context with a focus on working with data stored in a geodatabase and performing geoprocessing and analysis. In the course exercises, you will organize and edit data stored in a geodatabase, prepare data for analysis, create and edit geoprocessing models using ModelBuilder™, and work through a challenging analysis project.

This course is designed for experienced ArcGIS users who want to learn more about the ArcGIS tools for creating and editing data and GIS analysis.

Goals
After completing this course, you will be able to

- Add data from different sources to a geodatabase.
- Create subtypes and use them when editing data.
- Validate geodatabase feature geometry and attributes.
- Edit data using a geodatabase topology.
- Create and edit geodatabase annotation.
- Create and edit metadata using a template.
- Create custom symbols and style sheets.
- Create and apply a custom map template.
- Run analysis tools using dialog boxes, models, and the command line window.
- Build a complex model using ModelBuilder.

Price
ESRI Site: $980 (per seat)

Client Site: $7,640 (per class, up to 12 students)

Prerequisites and recommendations
Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required.

Introduction to ArcGIS for Geospatial Intelligence and Law Enforcement
IL Three days (24 hours)

Overview
Designed with input from the defense, intelligence, homeland security, and law enforcement communities, this course helps you learn the core GIS skills you need to support your organization's missions using terminology, exercise scenarios, and data relevant to your daily work. You will learn how to use ArcGIS® tools to perform basic GIS tasks such as accessing, displaying, querying, and editing geographic data. In course exercises, you will label crime incidents based on the type of crime, produce a map to brief a strike team, display a GPS track log of a targeted suspect, and identify potential gaps in a sensor grid for a possible border crossing. The course concludes with a capstone exercise in which you independently apply what you have learned by working through one of several scenarios you consider most applicable to your job.

This course is designed for those new to ArcGIS and to GIS in general. This course provides the fundamental ArcGIS knowledge and experience needed by those working in law enforcement and geospatial intelligence organizations and should be taken instead of *ArcGIS Desktop II: Tools and Functionality.*

Goals
After completing this course, you will be able to

- Understand fundamental GIS and ArcGIS concepts.
- Customize how features display on a map.
- Work with tabular data similar to significant activities (SIGACTS) contained in a spreadsheet.
- Select features using logical expressions for help in route reconnaissance.
- Find features based on their locations to other features such as hazmat-capable fire stations within a distance of a chemical sensor.
- Edit data using ground truth verification, additional reporting methods, or heads-up digitizing.
- Associate tables from a reporting database with geographic data to help with link analysis.
- Perform spatial analysis to append information from two geographic layers.
- Produce maps to create target packages for operational and intelligence command briefings.

Price
ESRI Site: $1,470 (per seat)

Client Site: $11,460 (per class, up to 12 students)

Prerequisites and recommendations
Knowledge of Windows-based software for basic file management and browsing is required.

Getting Started with GIS
W Three modules (nine hours)—Free

Overview
Geographic information systems have changed the way many governments and organizations conduct business, solve problems, and plan for the future. This course provides a foundation for understanding what a GIS is and the possibilities it offers for discovering patterns, relationships, and trends. You will learn how GIS maps are different from paper maps, what makes the data used in a GIS unique, and how to use the geographic representation of real-world objects to obtain information and create meaningful maps. In interactive exercises and activities throughout the course, you will work with ArcGIS® software and see how a GIS supports problem solving in many different contexts.

This course is designed for those with no GIS background or experience who want to learn the basic features of a GIS and a geographic approach to solving problems.

Goals
After completing this course, you will be able to

- Explain what a GIS is.
- List ways that GIS can help you in your work.
- Display geographic data in ArcMap™.
- Query a GIS database.
- Explain what is unique about geographic data.
- Understand different types of spatial relationships among real-world features.
- Apply a standard approach to solving geographic problems.

Price: Free

Required software
To complete the exercises, ArcView® 9.2, ArcEditor™ 9.2, or ArcInfo® 9.2 or higher is required. This course includes streaming media. To view some course content, a broadband Internet connection is required.

Prerequisites and recommendations
Knowledge of Windows-based software for basic file management and browsing is required.

Learning ArcGIS Desktop (also available in Spanish)
W Eight modules (24 hours)—The first learning module is free.

Overview
ArcGIS® software is an integrated system that includes all the tools needed to get the most out of a GIS. This course introduces fundamental concepts of GIS and the major functionality contained within ArcGIS software. In course exercises, you will follow the GIS analytical process and work with a variety of ArcGIS tools to solve realistic problems. This course emphasizes practical GIS skills. You will learn basic GIS concepts and become familiar with the range of core ArcGIS software capabilities and tools.

This course is designed for those who are new to ArcGIS and to GIS in general.

Goals
After completing this course, you will be able to

- Understand basic GIS concepts.
- Describe the structure of ArcGIS software.
- Symbolize data for different types of maps.
- Add labels to a map.
- Create and edit geographic data.
- Solve spatial problems using queries, geoprocessing tools, and models.
- Create reports.
- Design presentation-quality maps.

Price: $182

Required software
To complete the exercises, ArcView® 9.2, ArcEditor™ 9.2, or ArcInfo® 9.2 or higher is required.

Prerequisites and recommendations
Knowledge of Windows-based software for basic file management and browsing is required.

"The course has been of immense benefit to me as I am now very confident in using ArcGIS software."

—Eric Afranie, Student
University of East London
Eastham, LND, United Kingdom

"Before taking this course, I knew nothing about GIS. Now I can't wait to start using it in my daily work. I think it's going to make a huge difference and also make my work that much more interesting."

—Beth Liebenberg, Regional Manager
Development Research Africa (Pty) Ltd
Port Elizabeth, South Africa

IL Instructor-Led   ILV Virtual Classroom   IL-PS Instructor-Led (Professional Services)   W Web   Learning Pathway

Understanding Geographic Data *by David DiBiase*
W ◐ Six modules (18 hours)—The first learning module is free.

Overview
Acquiring geographic data is an expensive process, so it makes sense for GIS users and their customers to know what to look for and where to look for their data. This course provides a concise but comprehensive survey of the nature of geographic data and of the technologies and professions involved in producing the data. You will gain a thorough understanding of the geographic data needed to perform common GIS tasks. In course exercises, you will find geographic data on the Internet from institutions such as the U.S. Geological Survey and the U.S. Census Bureau and work with ArcGIS® Desktop software and public domain data viewing applications to visualize the data you study.

This course is designed for new GIS users and customers of GIS service providers who want to become informed consumers of geographic data.

Goals
After completing this course, you will be able to

- Specify the characteristics of geographic data needed to perform common GIS tasks.
- Determine whether the required data is available.
- Recognize the technology required to produce data needed for a particular task.

Price: $130

Required software
To complete the exercises, ArcView® 9.1, ArcEditor™ 9.1, or ArcInfo® 9.1 or higher is required.

Prerequisites and recommendations
Knowledge of Windows-based software for basic file management and browsing is required.

"Excellent review; the exams were intense and really covered the material very well."

—Glendora Fahnestock-Sutton, Trans Tech Aide II
North Carolina Department of Transportation
Raleigh, North Carolina

Understanding Map Projections and Coordinate Systems
W ◐ Six modules (18 hours)—The first learning module is free.

Overview
Accurately representing features found on the earth's three-dimensional surface on a flat piece of paper or computer screen is a huge logistical problem—one whose solution involves mathematics, human ingenuity, and ever-evolving technology. In a GIS, map projections and coordinate systems are used to map real-world features. This course introduces the fundamental concepts behind map projections and coordinate systems. Essential characteristics of all map projections—aspect, perspective, and distortion—are discussed. The emphasis is on theory, but you will gain practical experience working with ArcGIS® software to apply map projections, modify their properties, and manipulate data stored in different coordinate systems. This course does not teach the mathematics behind individual map projections.

This course is designed for students and GIS professionals who want to understand the properties of different map projections and coordinate systems.

Goals
After completing this course, you will be able to

- Describe the major categories of map projections and coordinate systems.
- Understand the properties of different coordinate systems.
- Understand strengths and weaknesses of different map projections.
- Choose an appropriate map projection for different circumstances.
- Explain map projection distortion, plane, and aspect.
- Set map projection parameters.
- Assign coordinate systems in ArcMap™.
- Transform data from one coordinate system to another.

Price: $130

Required software
To complete the exercises, ArcView® 9, ArcEditor™ 9, or ArcInfo® 9 or higher is required.

Prerequisites and recommendations
Completion of *Getting Started with GIS* or equivalent knowledge is required.

Planning for a GIS *by Roger Tomlinson*
W 10 modules (30 hours)—The first learning module is free.

Overview
Many organizations have implemented a GIS, only to be disappointed when the system fails to meet their expectations. Is there a common reason why GIS implementations do not always work? Lack of planning is most often to blame. This course teaches a proven planning methodology that can be used to successfully implement a GIS. The methodology presented here teaches how to develop a planning proposal and gain approval from senior management. As you explore the steps in the methodology, you will learn basic concepts for planning a GIS implementation and how to "think about GIS."

This course is designed for GIS managers, coordinators, and others who want to develop, implement, and manage a GIS.

Goals
After completing this course, you will be able to

- Develop a project proposal.
- Understand the importance of involving senior management.
- Analyze an organization's GIS requirements.
- Align system use to meet business needs.
- Understand the importance of information products in the planning process.
- Determine the size and scope of a system.
- Develop a preliminary design document that addresses data and technology.
- Perform a benefit-cost analysis.
- Develop a cost-effective GIS implementation strategy.

Price: $234

Required software
To complete the exercises, Adobe® Reader® (free software from Adobe) is required.

Prerequisites and recommendations
None.

> Roger Tomlinson is the author of *Thinking About GIS: Geographic Information System Planning for Managers.* This book, published by ESRI Press, is available for purchase at **www.esri.com/esripress** or by calling 1-800-447-9778. The book is not required to complete the course.

Introduction to ArcLogistics Route
W One module (three hours)—Free

Overview
In any delivery setting, efficiency—in time, money, and resources—is the bottom line. ArcLogistics™ Route is a route optimization program designed to route multiple vehicles simultaneously while honoring complex business rules such as vehicle capacity, time windows, and working hours. This course provides an overview of ArcLogistics Route capabilities and the various parameters and components required to create routes. In the course exercise, you will work through the route creation process from start to finish.

This course is designed for those who need to find locations, assign stops to vehicles, and sequence stops considering such factors as time, cost, capacity, and productivity. Those working for a business that involves fleet management, such as food and beverage distribution, will find the course of particular interest.

Goals
After completing this course, you will be able to

- Create start and end points for a route.
- Specify characteristics of vehicles used to deliver orders.
- Geocode order addresses.
- Set up a routing folder to store customer orders and the vehicles associated with them.
- Import customer orders.
- Create routes automatically and manually.

Price: Free

Required software
To complete the exercise, ArcLogistics Route 3 or ArcLogistics Route Evaluation Edition 3 is required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations
Knowledge of Windows-based software for basic file management and browsing is required.

IL Instructor-Led   ILV Virtual Classroom   IL-PS Instructor-Led (Professional Services)   W Web   Learning Pathway

Migrating from ArcView 3.x to ArcGIS Desktop

W One module (three hours)—Free

Overview

This course introduces ArcView® 3.x users to the features and architecture of ArcGIS® Desktop software. You will learn how the ArcGIS terminology and features compare with ArcView 3.x and work with ArcCatalog™, ArcMap™, and ArcToolbox™ to see how these ArcGIS applications work together to provide a complete GIS software solution. In course exercises, you will work with data stored in a geodatabase, use ArcMap tools to display and query features, perform simple geoprocessing tasks, and import ArcView 3.x projects and data into ArcGIS.

This course is designed for experienced ArcView 3.x users who want to work with ArcGIS Desktop software.

Goals

After completing this course, you will be able to

- Describe the components of ArcGIS Desktop software.
- Explore geographic data in ArcCatalog.
- Display data in ArcMap.
- Access attribute data for map features.
- Select features on a map based on their attributes or location.
- Describe the components of a geodatabase.
- Understand how ArcGIS handles shapefiles, coverages, CAD files, and raster data.
- Import ArcView 3.x project files into ArcMap map documents.
- Import shapefiles and coverages into a geodatabase.
- Create a map layout.
- Create a graph.

Price: Free

Required software

To complete the exercises, ArcView 9.1, ArcEditor™ 9.1, or ArcInfo® 9.1 or higher is required.

Prerequisites and recommendations

An understanding of basic GIS concepts and experience working with ArcView 3.x software are required.

Understanding GIS Queries

W ◐ One module (three hours)

Overview

Queries are an important component of geographic analysis and problem solving. This course teaches how to construct spatial and attribute queries using ArcGIS® software. The basic elements of a query are defined, and query-building tools are introduced. Using these tools, analysis can be performed, complex questions can be answered, and geographic problems can be solved.

This course is designed for new ArcGIS users or for those new to GIS who want to learn how to create queries using ArcGIS software.

Goals

After completing this course, you will be able to

- Construct a query to select features based on an attribute.
- Construct a query to select features based on their location.
- Construct a query to remove features from a selected set.

Price: $26

Required software

To complete the exercises, ArcView® 9, ArcEditor™ 9, or ArcInfo® 9 or higher is required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations

Completion of *Getting Started with GIS* or equivalent knowledge is required.

Working with Rasters in ArcGIS Desktop
W Three modules (nine hours)

Overview
Many geographic phenomena are best represented as rasters, but GIS users tend to be less familiar with this data model than with the vector data model. This course unlocks the mysteries of rasters. You will learn which types of geographic phenomena are appropriately represented as rasters and how the type of data affects raster analysis. In course exercises, you will explore a variety of rasters using core ArcGIS® tools. You will also gain experience displaying rasters and modifying their properties to aid visual interpretation.

This course is designed for experienced ArcGIS users who want to better understand and work with rasters. This course provides a foundation for more advanced work with rasters using the ArcGIS Spatial Analyst and ArcGIS 3D Analyst™ extensions.

Goals
After completing this course, you will be able to

- Describe the structure of rasters.
- Display different types of rasters in ArcMap™.
- Work with raster catalogs.
- Georeference rasters.
- Symbolize rasters using a variety of classification methods.
- Choose appropriate analysis techniques for different types of rasters.
- Adjust raster brightness, contrast, and transparency.
- Assign appropriate band colors to display multiband rasters.
- Understand which band combinations are useful for different applications.

Price: $78

Required software
To complete the exercises, ArcView® 9.2, ArcEditor™ 9.2, or ArcInfo® 9.2 or higher is required.

Prerequisites and recommendations
Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required.

Georeferencing Rasters in ArcGIS
W One module (three hours)

Overview
Raster data files, such as satellite images and aerial photographs, are more useful when registered to the same projection used by other GIS data in an organization's data holdings. ArcGIS® software provides all the tools needed to georeference, transform, and project raster data. In this course, you will learn how to transform a raster to fit a known projection as well as how to scale, shift, rotate, and project raster data.

This course is designed for experienced ArcGIS users who work with raster data and want to learn about registering rasters to a known projection.

Goals
After completing this course, you will be able to

- Identify nongeoreferenced rasters.
- Add control points to a map.
- Create links and test their accuracy.
- Rectify a digital raster graphic (DRG).
- Rectify a digital orthophoto quadrangle (DOQ).
- Improve georeferencing accuracy using control layers.
- Save transformation information.

Price: $26

Required software
To complete the exercises, ArcView® 9, ArcEditor™ 9, or ArcInfo® 9 or higher is required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations
Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required.

IL Instructor-Led   ILV Virtual Classroom   IL-PS Instructor-Led (Professional Services)   W Web   Learning Pathway

Creating and Maintaining Metadata Using ArcGIS Desktop
W ⟳ Three modules (nine hours)

Overview
Metadata, the key information that documents a dataset, has emerged as a powerful tool for safeguarding an organization's investment in spatial data. Documenting datasets allows people to efficiently find them, evaluate their usefulness for a particular project, and share them with others. This course shows how metadata supports efficient management and use of spatial data and teaches practical strategies for creating and maintaining metadata using ArcGIS® software. You will learn how to write proper metadata using tools in ArcCatalog™ and how to automate metadata workflows using templates.

This course is designed for experienced ArcGIS users who work with, create, edit, or manage spatial data.

Goals
After completing this course, you will be able to

- Explain how metadata documents maps and globes, data models, workflow models, and datasets.
- Describe the benefits of creating and maintaining metadata.
- Explain the advantages of adhering to a metadata standard.
- Implement an appropriate metadata standard.
- Search metadata to find datasets.
- Evaluate datasets using metadata.
- Plan metadata content.
- Write proper metadata.
- Create templates to streamline metadata production.

Price: $78

Required software
To complete the exercises, ArcView® 9.1, ArcEditor™ 9.1, or ArcInfo® 9.1 or higher is required.

Prerequisites and recommendations
Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required.

"This course was incredibly comprehensive. I know everything that I need to know about metadata."

—David Reeves, GIS Student Technician
Texas A&M University
New Braunfels, Texas

Geocoding with ArcGIS Desktop
W Two modules (six hours)

Overview
Because they are a form of geographic data, addresses can be brought into a GIS, visualized on a map, and analyzed in terms of their spatial relationships to other features. Geocoding is the process of assigning an x,y coordinate location to an address, and it is a fast way to create GIS data. A geocoded address is displayed as a point feature on a map. This course teaches the process of geocoding using ArcGIS® software. You will learn how to prepare address data to optimize geocoding results and about the different address styles supported by ArcGIS, strategies for dealing with geocoding errors, and considerations for maintaining address reference data over time.

This course is designed for experienced ArcGIS users who need to work with address locations as points on a map.

Goals
After completing this course, you will be able to

- Describe what an address is and recognize common address styles.
- Choose an address locator style for a given address.
- Prepare address and reference data for geocoding.
- Create point features from addresses in a table.
- Use the Find tool to locate individual addresses on a map.
- Rematch unmatched addresses automatically and interactively.
- Use alternate names and place aliases for geocoding.
- Rebuild an address locator.
- Create a dynamically geocoded feature class.

Price: $52

Required software
To complete the exercises, ArcView® 9.2, ArcEditor™ 9.2, or ArcInfo® 9.2 or higher is required.

Prerequisites and recommendations
Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required.

Creating and Editing Labels and Annotation

W 🖱 Two modules (six hours)

Overview

ArcGIS® software provides powerful tools for adding descriptive text that enhances maps and makes them more usable. This course teaches how to efficiently create and modify feature labels and annotation and manage them to streamline map production. You will learn how to harness the power of dynamic feature labels and quickly create annotation and store it so that it can be easily reused. Course exercises teach a variety of processes for resolving realistic labeling challenges.

This course is designed for experienced ArcGIS users who want to learn how to efficiently create attractive, effective map labels and annotation.

Goals

After completing this course, you will be able to

- Display feature labels and modify their properties.
- Reposition and assign priorities to feature labels.
- Create label callouts and custom label text.
- Describe different types of annotation.
- Create and edit different types of annotation.
- Create annotation that follows feature curves.
- Convert coverage annotation to geodatabase annotation.
- Create attractive maps that use text to optimize the information conveyed.

Price: $52

Required software

To complete the exercises, ArcView® 9, ArcEditor™ 9, or ArcInfo® 9 or higher is required.

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required.

Advanced Techniques for Labels and Annotation

ILV Three days (nine hours)

Overview

Labeling features is one of the most time-consuming tasks when creating a presentation-quality map. This course presents advanced strategies for efficiently manipulating labels and annotation so they display properly without hours of detailed work. Students learn how to customize label appearance and text using ArcGIS® tools and sample code and get practice with label placement using the Maplex™ extension. This course discusses the structure of coverage annotation, the ArcGIS geoprocessing tools used to import coverage annotation formats into the geodatabase, and the process of creating geodatabase feature-linked annotation. A focus of the course is teaching how sample code can be used to quickly accomplish tasks that are normally repetitive and time consuming.

This course is taught using an ArcInfo® license of ArcGIS since some of the course exercises require an ArcInfo license.

This course is designed for experienced ArcGIS users who want to take advantage of advanced functionality and sample code to create and manage labels and annotation.

Goals

After completing this course, you will be able to

- Create text effects using masking tools and formatting tags.
- Manipulate label text using sample code.
- Use the Maplex extension to place labels.
- Import annotation from coverages into a geodatabase.
- Create geodatabase feature-linked annotation.
- Edit annotation features and attributes.
- Stack words within a piece of annotation.
- Find and use Visual Basic® for Applications (VBA) and ArcObjects™ sample code to automate labeling and annotation processes.

Price: $575 (per seat)

Technical requirements

Participation in a Virtual Classroom course requires a telephone and a broadband Internet connection. For a complete list of Virtual Classroom technical requirements, visit **www.esri.com/ virtualclassroom**.

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop and Building Geodatabases* or *Creating, Editing, and Managing Geodatabases for ArcGIS Desktop* or equivalent knowledge is required.

IL Instructor-Led   **ILV** Virtual Classroom   **IL-PS** Instructor-Led (Professional Services)   **W** Web   🖱 Learning Pathway

The 15-Minute Map: Creating a Basic Map in ArcMap
W ⏺ One module (three hours)

Overview

Creating presentation-quality maps does not have to be time consuming. The map templates included with ArcMap™ provide attractive default layouts for fundamental map elements such as geographic data, titles, scale bars, and company logos. Using a template is an efficient way to reduce the time spent creating a map. This course teaches how to use ArcMap templates to stream-line map creation. You will learn how to identify map element properties and defaults, how to modify elements while maintaining proper cartographic design principles, and how to add elements to layouts to create custom ArcMap templates.

This course is designed for ArcGIS® users who are interested in learning quick and efficient map production techniques.

Goals

After completing this course, you will be able to

- Access and preview map templates.
- Modify map elements such as titles, data frames, legends, scale bars, and graticules.
- Draw a graphic on a map.
- Add text to a map.
- Save a map as a custom template.
- Prepare a map for printing.

Price: $26

Required software

To complete the exercise, ArcView® 9, ArcEditor™ 9, or ArcInfo® 9 or higher is required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations

Completion of *Getting Started with GIS* or equivalent knowledge is required.

Cartographic Design Using ArcGIS 9 *by Cynthia A. Brewer, Ph.D.*
W Seven modules (21 hours)—The first learning module is free.

Overview

As more people begin making maps using GIS software, they need to understand cartographic design principles that will help them create maps that are clear and convincing to those who will read them. This course discusses key design issues and teaches practical guidelines for creating maps that are well suited to their display medium and speak effectively to their audience. You will learn fundamental design principles and practice with the ArcGIS® tools to create high-quality maps.

This course is designed for experienced ArcGIS users who want to use cartographic tools to create maps that communicate more effectively.

Goals

After completing this course, you will be able to

- Understand fundamental cartographic design principles.
- Design maps for different purposes and audiences.
- Export ArcGIS maps to different formats.
- Create and modify map text.
- Create special text effects such as callouts, shadows, and halos.
- Understand principles of color theory and how they affect map symbolization.
- Choose appropriate symbols for point, line, and polygon features.
- Create custom symbols and color schemes.
- Create custom map legends.

Price: $156

Required software

To complete the exercises, ArcView® 9, ArcEditor™ 9, or ArcInfo® 9 or higher is required.

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required.

Cartography with ArcGIS
IL Three days (24 hours)

Overview

ArcGIS® makes it easy to design maps for printing, embedding in other documents, and electronic publishing. This course teaches basic principles of cartographic design and how to apply them using ArcGIS cartographic and geoprocessing tools to create outstanding maps. You will examine factors that control and influence cartographic design, learn techniques to best display vector and raster data, and create maps that communicate information effectively.

This course is designed for experienced ArcGIS users who want to produce high-quality map products. You are encouraged to bring your own map for use in map critique exercises.

Goals

After completing this course, you will be able to

- Understand and apply fundamental cartographic design principles.
- Define design objectives for map usability.
- Understand the visual limitations in deciphering graphics.
- Understand how symbols and colors affect map interpretation.
- Create custom symbols and labels.
- Understand the effect of scale on generalization and how to improve readability of map features.
- Apply classification schemes for displaying data.
- Create and modify labels for map features.
- Create and place annotation.
- Use Maplex™ for ArcGIS tools for advanced label placement.
- Create quality maps with advanced raster techniques.
- Create balanced and informative layouts.
- Print and publish maps.
- Critique maps for improved design skills.

Price

ESRI Site: $1,470 (per seat)

Client Site: $11,460 (per class, up to 12 students)

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required.

Working with Cartographic Representations
IL Two days (16 hours)

Overview

ArcGIS® 9.2 software introduced cartographic representations, which are used to create sophisticated feature symbology that is stored in the geodatabase with the associated spatial data. This course explains what cartographic representations are and how they can be used to solve cartographic problems that were formerly difficult or impossible to solve in the ArcGIS environment. You will learn how to create symbology for different map purposes and scales without duplication and reprocessing of spatial data. The course teaches cartographic representations in the context of a map project; in the exercises, you will convert existing symbology to representations and gain experience with advanced symbol creation and manipulation as you improve a map designed to promote bicycling. Along the way, you will learn how balancing the use of cartographic representations with traditional symbology methods can optimize a map production workflow.

This course is designed for intermediate and expert ArcGIS users who make maps or are responsible for managing cartographic data standards for their organizations.

Goals

After completing this course, you will be able to

- Describe the structure of cartographic representations.
- Create cartographic representations using different methods.
- Create custom symbols using cartographic representations.
- Use cartographic representations to solve cartographic problems associated with symbol conflict, generalization, and scale.
- Create multiple cartographic representations for a single geodatabase feature class.
- Understand when to use cartographic representations and when to use traditional methods to symbolize map features.

Price

ESRI Site: $980 (per seat)

Client Site: $7,640 (per class, up to 12 students)

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* and *Cartographic Design Using ArcGIS 9* or *Cartography with ArcGIS* or equivalent knowledge is required.

IL Instructor-Led   **ILV** Virtual Classroom   **IL-PS** Instructor-Led (Professional Services)   **W** Web   Learning Pathway

Working with CAD Data in ArcGIS Desktop
ILV Three days (nine hours)

Overview
ArcGIS® software provides robust tools for integrating computer-aided design (CAD) data into an organization's GIS workflow. This course teaches how to use these tools to display and query CAD data as well as import CAD data into a geodatabase and export that data back to CAD. You will learn how to change CAD feature symbology, define coordinate systems for CAD data, and georeference CAD data.

This course is designed for experienced ArcGIS users who need to work with CAD data in ArcGIS. Experienced CAD users who have basic ArcGIS skills will also find the course beneficial.

Goals
After completing this course, you will be able to

- Control the visibility of CAD drawing layers.
- Change how CAD data is symbolized in ArcMap™.
- Display CAD data in ArcMap using CAD entity values.
- Import CAD data into a geodatabase feature class.
- Define a coordinate system for CAD data.
- Use ArcMap georeferencing tools to change the location of CAD data.
- Create world files for CAD data transformations.
- Edit CAD data in ArcMap, then export it to a new CAD data file.
- Use CAD seed files to control the export of geodatabase feature classes to CAD files.

Price: $575

Technical requirements
Participation in a Virtual Classroom course requires a telephone and a broadband Internet connection. For a complete list of Virtual Classroom technical requirements, visit **www.esri.com/virtualclassroom**.

Prerequisites and recommendations
Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required.

Working with Map Topology in ArcGIS
W ⟲ One module (three hours)

Overview
ArcView® users can use map topology to perform a host of topological edits that do not require the use of geodatabase topology. Map topology is a basic form of topology used on simple features in a map during an edit session to simultaneously edit features that overlap or touch. This course provides an overview of map topology and gives you a foundation for working with map topology tools.

This course is primarily designed for ArcView users but is also useful for ArcEditor™ or ArcInfo® users who want to learn about map topology.

Goals
After completing this course, you will be able to

- Create a map topology.
- Modify coincident feature geometry.
- Set snapping preferences for an edit session.
- Move a boundary shared by two features.

Price: $26

Required software
To complete the exercises, ArcView 9, ArcEditor 9, or ArcInfo 9 or higher is required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations
Completion of *Getting Started with GIS* or equivalent knowledge is required.

Creating and Editing Parcels with ArcGIS
IL ⟳ Two days (16 hours)

Overview
This course provides an introduction to storing and maintaining cadastral data in a geodatabase using coordinate geometry (COGO) tools in ArcGIS®. You will learn basic concepts of the geodatabase data model and a workflow for editing parcels. In course exercises, you will practice displaying, symbolizing, and editing parcel data as well as entering subdivisions into an existing parcel fabric. The course also teaches how to create and modify tax map annotation. This course is taught using an ArcEditor™ or ArcInfo® license of ArcGIS since the data creating and editing workflow covered in the course requires functionality available with those licenses.

This course is designed for tax mapping professionals and GIS technicians who want to maintain an accurate and up-to-date geographic representation of the local cadastral fabric.

Goals
After completing this course, you will be able to

- Understand the structure and capabilities of a geodatabase.
- Symbolize cadastral data.
- Create layer files.
- Set up the ArcMap™ editing environment.
- Create new features using COGO bearing and distance measurements.
- Adjust traverses to fit into an existing parcel framework.
- Use geodatabase topology to ensure data integrity.
- Use many of the ArcMap editing and drawing tools.
- Create and modify annotation including lot dimensions.
- Enter subdivisions.

Price
ESRI Site: $980 (per seat)

Client Site: $7,640 (per class, up to 12 students)

Prerequisites and recommendations
Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent experience is required. You should also be familiar with tax mapping terminology and practices.

Data Production and Editing Techniques
IL ⟳ Three days (24 hours)

Overview
Intended for the GIS technician, this course teaches the software skills and concepts needed to automate and maintain feature data in an ArcGIS® geodatabase. Using the tools available with ArcGIS software, you will learn techniques for data preparation, conversion, and editing. You will also learn how topology and other geodatabase validation rules help maintain data integrity as part of an editing workflow. This course teaches practical methods for working with spatial and attribute data with an emphasis on data stored in the geodatabase. Each day concludes with a project, allowing you to apply these techniques on your own.

This course is designed for experienced ArcGIS users who need to create and update data. GIS technicians responsible for maintaining their organizations' geographic data holdings will find the course of particular benefit.

Goals
After completing this course, you will be able to

- Convert data stored in different formats to the geodatabase format.
- Use a data workflow and editing process in ArcGIS.
- Solve common coordinate system problems.
- Create and modify features using ArcMap™ sketch and edit tools.
- Create and edit feature attributes and tables.
- Maintain data integrity with geodatabase rules.
- Create metadata to document datasets.

Price
ESRI Site: $1,470 (per seat)

Client Site: $11,460 (per class, up to 12 students)

Prerequisites and recommendations
Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required.

IL Instructor-Led   ILV Virtual Classroom   IL-PS Instructor-Led (Professional Services)   W Web   ⟳ Learning Pathway

QA/QC for GIS Data
IL ↻ Two days (16 hours)

Overview
Data is the foundation of every successful GIS. To ensure a reliable foundation for their GIS, organizations should have a well-designed quality assurance (QA) plan and quality control (QC) procedures integrated with the generation and maintenance of GIS data. This course covers errors and quality in GIS data and provides practical guidelines for creating a complete QA plan. You will learn techniques for evaluating and verifying data quality. Using ArcGIS® Desktop and GIS Data ReViewer™, QC tools and workflows are presented with an eye toward ever-improving technology.

This course is designed for project managers, spatial data managers, and GIS technicians who will be involved in the design and implementation of QA/QC programs for vector data production and maintenance.

Goals
After completing this course, you will be able to

- Explain the importance of QA plans and QC procedures.
- Understand issues involved in GIS data quality.
- Explain the content and practice of a QA plan.
- Identify and detect different types of errors in GIS data.
- Apply QC tools, techniques, and methodologies.
- Design an error-tracking and verification process.

Price
ESRI Site: $980 (per seat)

Client Site: $7,640 (per class, up to 12 students)

Prerequisites and recommendations
Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required. Completion of *Building Geodatabases* is recommended.

Linear Referencing with ArcGIS Desktop
W ↻ Three modules (nine hours)

Overview
ArcGIS® software supports linear referencing, a method of storing data that adds a new dimension to line features. Linear referencing extends the ability to visualize and analyze linear features such as roads, pipelines, or streams. Instead of relying solely on x,y coordinate geometry, linear referencing is based on relative positions along the line using distance or temporal measures such as miles or hours. For example, an accident that occurred at a specific milepost on a highway could be modeled with linear referencing. This course covers how to generate and display linearly referenced features in a map as well as how to incorporate them into GIS analysis.

This course is designed for experienced ArcGIS users who want an introduction to linear referencing.

Goals
After completing this course, you will be able to

- Create simple routes from existing line features.
- Assign measures to routes.
- Query routes.
- Symbolize routes with hatching.
- Create a route feature class.
- Edit route features and remeasure them.
- Calibrate route measures.
- Create and overlay event tables.
- Generate route events.
- Create and edit complex routes.
- Transform route events from one measurement system to another.
- Use additional analysis techniques.

Price: $78

Required software
To complete the exercises, ArcView® 9.1, ArcEditor™ 9.1, or ArcInfo® 9.1 or higher is required.

Prerequisites and recommendations
Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* and *ArcGIS Desktop III: GIS Workflows and Analysis* or *Creating, Editing, and Managing Geodatabases for ArcGIS Desktop* or equivalent knowledge is required.

Analyzing School Safety Using ArcGIS *by Rachel Boba*
W One module (three hours)

Overview
GIS technology has become an important tool within the law enforcement community for examining public safety issues. In the case of schools, collective analysis of data on crime, disorder, and truancy may help law enforcement and school officials devise strategies to address problems and enhance school safety. This course teaches how to use ArcGIS® software to map and analyze school, police, and geographic data. You will learn how to identify safety issues and use GIS as a decision-making tool.

This course is designed for K–12 administrators, school resource officers, high school and college students, and others interested in using GIS technology to promote safety in schools. Law enforcement personnel may find the course of particular interest.

Goals
After completing this course, you will be able to

- Describe the relevance of using GIS for school safety analysis.
- Identify various types of school and police data that can be used in school safety analysis.
- Map incidents to identify unsafe areas on school campuses and in surrounding areas.
- Create maps that support districtwide analysis of school safety and crime-related issues.
- Explain how GIS can be used to support decision making for individual schools and school districts.

Price: $26

Required software
To complete the exercises, ArcView® 9, ArcEditor™ 9, or ArcInfo® 9 or higher is required.

Prerequisites and recommendations
Completion of *Getting Started with GIS* or equivalent knowledge is required.

Creating and Integrating Data for Natural Resource Applications
W 🕭 Four modules (12 hours)

Overview
Frequently, the natural resources data needed for a project (such as vegetation, species locations, or watersheds) does not exist. Or the data may exist but significant manipulation is required before it can be displayed and used for analysis in a GIS. This course teaches methods for acquiring, evaluating, creating, manipulating, and integrating data in preparation for analysis and map production. You will learn problem-solving techniques and answers to common data-related questions. You will apply the skills you have learned throughout the course to work through a realistic conservation analysis project.

This course is designed for experienced ArcGIS® users who want to create and integrate vector and raster data for conservation projects or other natural resource applications.

Goals
After completing this course, you will be able to

- Evaluate existing data.
- Assess data errors.
- Create spatial and attribute data.
- Use a hard-copy map to create new features.
- Derive new data from existing spatial data.
- Integrate data collected in the field with other sources of data.
- Interpolate raster surfaces.
- Correct data alignment problems.

Price: $104

Required software
To complete the exercises, ArcView® 9.2, ArcEditor™ 9.2, or ArcInfo® 9.2 or higher and ArcGIS Spatial Analyst 9.2 or higher are required.

Prerequisites and recommendations
Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* and *Working with Rasters in ArcGIS Desktop* or equivalent knowledge is required.

"This course did an excellent job of integrating the concepts into exercises."

—Jess Morrison, GIS Analyst
Alaska Earth Sciences
Anchorage, Alaska

IL Instructor-Led   **ILV** Virtual Classroom   **IL-PS** Instructor-Led (Professional Services)   **W** Web   🕭 Learning Pathway

Advanced Analysis with ArcGIS
IL ⟳ Three days (24 hours)

Overview
ArcGIS® software provides many tools for solving complex spatial problems. This course examines modeling techniques used in spatial analysis and introduces processes and tools that can be used to perform a variety of GIS analysis tasks. The ArcGIS geoprocessing framework, which includes ArcToolbox™, ModelBuilder™, the command line, and scripts, is emphasized. Project-based exercises draw from a range of interesting real-world GIS applications. The course concludes with a project in which you are challenged to implement many of the tools taught in the course. This course is taught using an ArcInfo® license of ArcGIS since many of the advanced analysis tools used require an ArcInfo license.

This course is designed for experienced ArcGIS users who want to learn about the advanced features of ArcGIS software for use in analysis.

Goals
After completing this course, you will be able to

- Understand the analytical process and reasons for performing analysis.
- Describe various types of models.
- Understand the ArcGIS 9 geoprocessing framework including ModelBuilder, the command line, tools, and scripts.
- Find and apply a variety of geoprocessing tools.
- Create models and document workflows with ModelBuilder.

Price
ESRI Site: $1,470 (per seat)

Client Site: $11,460 (per class, up to 12 students)

Prerequisites and recommendations
Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* and *ArcGIS Desktop III: GIS Workflows and Analysis* or equivalent knowledge is required.

Geoprocessing with ArcGIS Desktop
W ⟳ Five modules (15 hours)—The first learning module is free.

Overview
Geoprocessing is a primary function of a GIS. ArcGIS® software provides hundreds of tools for processing geographic data as well as ModelBuilder™, a graphical environment for visualizing and executing workflows. This course teaches practical strategies for using the ArcGIS geoprocessing framework to accomplish GIS workflows. You will work with geoprocessing tools to create and organize workspaces, prepare data for analysis, and perform GIS analysis tasks, then learn how to streamline processes using models and scripts. You will also learn how to create custom geoprocessing tools and the importance of documenting custom tools, scripts, and models. This course provides a solid foundation in the ArcGIS geoprocessing framework and emphasizes hands-on practice through exercises.

This course is designed for experienced ArcGIS users who want to use geoprocessing tools and models in their GIS projects.

Goals
After completing this course, you will be able to

- Set up and modify the geoprocessing environment.
- Find and run geoprocessing tools.
- Use geoprocessing tools to create, modify, and analyze spatial data.
- Create custom geoprocessing tools.
- Model workflows using geoprocessing tools and ModelBuilder.
- Execute scripts as geoprocessing tools and in models.
- Document custom tools, scripts, and models.

Price: $104

Required software
To complete the exercises, ArcView® 9.2, ArcEditor™ 9.2, or ArcInfo® 9.2 or higher is required.

Prerequisites and recommendations
Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required.

"I enjoyed this course. It has great potential for use in our Mapping Group."
—Mike Bell, AM/FM/GIS Technician
Warren Rural Electric Cooperative Corporation
Bowling Green, Kentucky

"This course helped build my strengths in GIS."
—Adeeta Bandoo, Graduate Trainee
Petrotrin
Queens, New York

Introduction to Urban and Regional Planning Using
ArcGIS 9 *by Chris Pettit and David Pullar*

W Six modules (18 hours)—The first learning module is free.

Overview

For decades, urban and regional planners have used GIS technology to help find solutions to the challenges posed by increasing population growth and urban development. This course covers basic urban and regional planning concepts and tasks and teaches how those tasks can be managed using GIS techniques and ArcGIS® Desktop software. You will learn how to use ArcGIS tools to address real-world social, economic, and environmental planning problems. The skills and techniques presented in the course provide an effective and efficient means of carrying out urban and regional planning tasks.

This course is designed for professional urban and regional planners in both private and public organizations. College and university students interested in urban and regional planning will also benefit from this course.

Goals

After completing this course, you will be able to

- Understand the underlying theory of urban and regional planning processes.
- List different planning tasks that urban and regional planners perform.
- Describe datasets that are helpful for formulating urban and regional plans.
- Map urban land-use trends.
- Use spatial analysis techniques to determine a suitable location for a particular land use.
- Map population change over time.
- Name various planning factors that influence a strategic plan.
- Evaluate different planning strategies and arrive at suitable policies.
- Create a final conceptual plan.

Price: $130

Required software

To complete the exercises, ArcView® 9.1, ArcEditor™ 9.1, or ArcInfo® 9.1 or higher is required.

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required. Knowledge of urban and regional planning theory is beneficial.

"The exercises were well done, and I know I will apply these newfound techniques to my own projects."

—Kindra Martinenko, Planning Technician
Oregon Cascades West Council of Governments
Albany, Oregon

Solving Disaster Management Problems Using
ArcGIS 9 *by Glenn Johnson*

W 🌀 Six modules (18 hours)—The first learning module is free.

Overview

GIS is a powerful tool that can assist decision making in all phases of the disaster management cycle. This course teaches how to apply GIS to protect life, property, and critical infrastructure from natural and human-caused disasters. Using ArcGIS® software, you will learn how to perform tasks such as vulnerability analysis, multihazard mapping, and shelter planning. In course exercises, you will identify and create data necessary for disaster planning and recovery and present GIS data in ways that support emergency management analyses.

This course is designed for public-sector professionals, risk management professionals, and anyone interested in applying GIS to disaster management activities.

Goals

After completing this course, you will be able to

- Recognize the key benefits of GIS to disaster management planning.
- Organize disaster management data and create map templates.
- Use hazard maps to identify critical resources, infrastructure, and populations in harm's way.
- Perform what-if scenarios using hazard maps.
- Map human-caused disasters.
- Understand how GIS modeling can be used in emergency training exercises.
- Identify data required for shelter planning and damage assessment.
- Use GIS to help evaluate a community's shelter requirements.
- Explain how GIS can be used to streamline the damage assessment process.

Price: $130

Required software

To complete the exercises, ArcView® 9, ArcEditor™ 9, or ArcInfo® 9 or higher is required.

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required. Familiarity with emergency management practices is beneficial.

IL Instructor-Led   ILV Virtual Classroom   IL-PS Instructor-Led (Professional Services)   W Web   🌀 Learning Pathway

Spatial Analysis of Geohazards Using ArcGIS 9 *by ESRI and William Harbert*

W ⟳ Six modules (18 hours)—The first learning module is free.

Overview

Geologic hazards loom all around. As population growth forces more communities to expand into areas at risk, concern increases about the danger that geohazards pose to people, property, and the environment. This course shows how GIS can be used to determine where geohazards are likely to occur and assess their potential impact on the human community. You will work with ArcGIS® software to analyze and map a variety of geohazards. A better understanding of these events is the first step toward effective disaster planning.

This course is designed for earth scientists, public-sector professionals, students, and others who want to apply GIS to better understand geohazards.

Goals

After completing this course, you will be able to

- Use hazard maps to identify areas at risk from earthquakes, volcanoes, and floods.
- Import data from an earthquake catalog and visualize it in three dimensions.
- Map building damage density.
- Calculate the speed and travel time of a tsunami using bathymetry data.
- Identify the population at risk for any given hurricane category.
- Map the estimated water depth above the surface within a hurricane inundation area.
- Estimate accumulated precipitation by integrating time series Doppler radar data.
- Model a real-life landslide event.

Price: $130

Required software

To complete the exercises, ArcView® 9, ArcEditor™ 9, or ArcInfo® 9 or higher and ArcGIS Spatial Analyst 9 or higher are required. ArcGIS 3D Analyst™ may be used in some exercises but is not required.

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required. Familiarity with basic earth science concepts is beneficial.

Turning Data into Information Using ArcGIS 9 *by ESRI and Paul Longley, Michael Goodchild, David Maguire, and David Rhind*

W ⟳ Six modules (18 hours)—The first learning module is free.

Overview

Along with the explosive growth of GIS over the last decade, a considerable increase in the availability and use of digital spatial data has occurred. Producing useful information from spatial data requires a thorough understanding of the limitations and methods used to process data. This course examines the scientific methods used to derive useful information from spatial data. A companion to the book *Geographic Information Systems and Science,* Second Edition, written by the course authors, this course complements the book and reinforces its concepts through examples and exercises. You will explore GIS theory related to the visualization, measurement, transformation, optimization, and uncertainty of spatial data.

This course is designed for those who want to better understand spatial data and its usefulness for decision making.

Goals

After completing this course, you will be able to

- Query and measure spatial data.
- Perform spatial overlays.
- Create raster surfaces using different interpolation methods.
- Create density surfaces of various geographic phenomena.
- Produce statistical summaries of spatial data.
- Conduct optimization studies to identify desired point locations and routes.
- Assess the uncertainties associated with spatial data.

Price: $130

Required software

To complete the exercises, ArcView® 9, ArcEditor™ 9, or ArcInfo® 9 or higher and ArcGIS® Spatial Analyst 9 or higher are required.

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required. Although this course is a companion to the book *Geographic Information Systems and Science,* Second Edition, the book is not required to complete the course.

"All parts of this course were helpful in learning GIS, but the most effective training tools for me were the hands-on ArcMap™ exercises."

—Tyler Harvey, Student
California State University, Monterey Bay
Seaside, California

Working with Geometric Networks for Utilities
ILV Three days (nine hours)

Overview
In the geodatabase, geometric networks are used to model linear features, such as pipelines and electric transmission lines, and the point features they connect to, such as valves and junction boxes. This course teaches the fundamental concepts of geometric networks with a focus on utility examples. You will learn about the components of a geometric network and the workflow for creating one. In course exercises, you will work with realistic utilities data to create and edit geometric networks and perform geometric network analysis. Additionally, you will gain experience working with schematic representations of a network created with ArcGIS® Schematics and learn how to bring CAD data into ArcGIS.

This course is designed for experienced ArcGIS users who want to model and manage utilities data using geometric networks. Spatial data managers and GIS technicians who work in the electric, gas, and water/wastewater industries and need to design, build, and edit geometric networks will find the course of particular benefit.

Goals
After completing this course, you will be able to

- Define the components of a geometric network.
- Build a geometric network in ArcCatalog™.
- Create network rules and assign network weights.
- Check network connectivity.
- Perform analysis on geometric networks.
- Edit spatial and attribute data in a geometric network.
- Display a geometric network as a schematic.

Price: $575 (per seat)

Technical requirements
Participation in a Virtual Classroom course requires a telephone and a broadband Internet connection. For a complete list of Virtual Classroom technical requirements, visit **www.esri.com/ virtualclassroom**.

Prerequisites and recommendations
Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required. Completion of *Building Geodatabases* or *Creating, Editing, and Managing Geodatabases for ArcGIS Desktop* is recommended.

Hydrologic and Hydraulic Analyses Using ArcGIS
IL-PS Five days (40 hours)

Overview
This course presents GIS techniques that can be used for terrain analysis, hydrologic and hydraulic (H&H) characteristics extraction, numerical model input/output, modeling process automation, and result mapping. Hydrologic Engineering Center (HEC)-GeoHMS and HEC-GeoRAS and the United States Geological Survey (USGS) StreamStats—each built upon foundation methodologies, data models, and toolsets provided by Arc Hydro—form the modeling backbone for H&H analyses. The class will use ArcGIS® and its extensions to support several requirements that H&H analyses pose to GIS technology. You will develop Hydrologic Modeling System (HMS) and River Analysis System (RAS) model inputs and analyze and map model results. While H&H analyses are at the core of this class, the focus is on what functionality GIS provides to H&H modeling, not on performing H&H analyses. Opportunities to use GIS in postmodel analyses, such as mapping and flood damage estimation, will also be discussed.

This course is designed for H&H and GIS professionals supporting H&H analyses. The course covers the essentials of H&H and GIS to provide background material needed to complete and understand the class. The lectures and exercises do not require an extensive GIS or H&H background. Advanced H&H or GIS users will have an opportunity to work with their own data during the course exercises.

Goals
After completing this course, you will be able to

- Understand core GIS functionality and data models used in H&H analyses.
- Understand Arc Hydro as the foundation for H&H analyses and database design.
- Use TIN and GRID data structures for efficient terrain surface representation.
- Implement GIS as a spatial and temporal integrator.
- Create hydrologic statistical modeling—National Stream Statistics (NSS) and StreamStats.
- Create hydrologic physical modeling—HMS and GeoHMS.
- Create hydraulic modeling—RAS and GeoRAS.
- Perform floodplain mapping.
- Describe methods for process automation and integration.

Price
ESRI Site: $2,450 (per seat)

Client Site: $19,100 (per class, up to 12 students)

Prerequisites and recommendations
A GIS or water resources background is required. Familiarity with ArcGIS (ArcMap™ in particular), RAS, and HMS is desirable but not required. Arc Hydro training or experience with H&H and GIS technology is recommended.

IL Instructor-Led   **ILV** Virtual Classroom   **IL-PS** Instructor-Led (Professional Services)   **W** Web   Learning Pathway

Learning ArcGIS 3D Analyst

W ◉ Seven modules (21 hours)—The first learning module is free.

Overview

ArcGIS® 3D Analyst™ software provides advanced tools for three-dimensional modeling and analysis and a new way of visualizing large amounts of data on a three-dimensional globe surface. This course teaches how to view, manage, and analyze three-dimensional data from a local to a global extent. You will learn what a surface model is and how to create both raster and vector surfaces. Working mostly with models of terrain, you will display surfaces in three-dimensional perspective, symbolize them, and set three-dimensional properties. You will also create realistic models by draping aerial photographs over surfaces and displaying two-dimensional features in three dimensions.

This course is designed for experienced ArcGIS users who want to apply three-dimensional visualization and analysis techniques to their spatial data. Anyone who works frequently with terrain models or large-scale physical models may benefit from this course.

Goals

After completing this course, you will be able to

- Understand the structure of three-dimensional data.
- Use ArcCatalog™ to preview and manage three-dimensional data.
- View and explore data in a three-dimensional perspective using ArcCatalog, ArcMap™, ArcScene™, and ArcGlobe™.
- Create three-dimensional surface models and features.
- Derive slope, aspect, and viewshed surfaces from elevation models.
- Convert three-dimensional data to various formats.
- Create an animation file in ArcGlobe.

Price: $156

Required software

To complete the exercises, ArcView® 9.2, ArcEditor™ 9.2, or ArcInfo® 9.2 or higher and ArcGIS 3D Analyst 9.2 or higher are required.

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required.

Introduction to ArcScan for ArcGIS

W One module (three hours)

Overview

Much data that goes into GIS databases comes from imagery (e.g., scanned source documents). ArcScan™ for ArcGIS® is used to convert raster images to vector-based feature layers such as shapefiles and geodatabase feature classes, a process referred to as vectorization. This course shows how to use the ArcScan raster editing tools to improve the quality of raster data prior to vectorization. You will learn how to properly establish vectorization settings and how to create vector features using two vectorization methods: interactive tracing and batch vectorization.

This course is designed for experienced ArcGIS users who are interested in exploring another option for creating vector data from scanned imagery.

Goals

After completing this course, you will be able to

- Preprocess scanned raster images.
- Specify appropriate vectorization settings.
- Preview vectorization settings.
- Perform batch vectorization to convert raster data to vector features.
- Use interactive tracing to vectorize line and polygon features.

Price: $26

Required software

To complete the exercises, ArcView® 9, ArcEditor™ 9, or ArcInfo® 9 or higher and ArcScan for ArcGIS are required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required.

Introduction to ArcGIS Business Analyst

IL Two days (16 hours)

Overview

ArcGIS® Business Analyst is solution-based software designed to help organizations improve their business decision making. This course teaches fundamental ArcGIS Business Analyst concepts and introduces its powerful analysis tools. You will become familiar with the ArcGIS Business Analyst interface as you work with the extensive library of data included with the software. In course exercises, you will perform many types of business analyses including trade area analysis, drive-time analysis, customer and store prospecting, and market penetration studies.

This course is designed for ArcGIS Business Analyst users who want to take advantage of the software's data and tools to improve business decision making.

Goals

After completing this course, you will be able to

- Explain basic GIS concepts such as spatial and nonspatial data, layers, and map scale.
- Navigate the ArcGIS Business Analyst interface.
- Access data that comes with ArcGIS Business Analyst.
- Create a study area.
- Create trade areas based on customer and store locations.
- Perform drive-time analyses.
- Perform market penetration analyses.
- Analyze customer characteristics.
- Create reports and maps to present analysis results.

Price

ESRI Site: $980 (per seat)

Client Site: $7,640 (per class, up to 12 students)

Prerequisites and recommendations

Knowledge of Windows-based software for basic file management and browsing is required. If you are new to GIS, completion of the free first module of *Learning ArcGIS Desktop* is recommended.

Working with ArcGIS Network Analyst

IL 🌀 Two days (16 hours)

Overview

Built around the new network dataset, ArcGIS® Network Analyst software incorporates an advanced connectivity model that more accurately represents real-world multimodal networks. This course teaches how to create network datasets and migrate existing data, such as shapefiles and coverages, into a network dataset. You will work with network datasets to solve different types of network problems such as finding the most efficient travel route, finding the closest facility, and defining service areas based on travel time. The course also teaches how to calculate origin-destination matrices for network locations.

This course is designed for experienced ArcGIS users who want to create and manage network datasets and perform network system analysis.

Goals

After completing this course, you will be able to

- Understand the fundamental concepts of the ArcGIS network dataset.
- Differentiate between network datasets and geometric networks.
- Create network datasets.
- Define network dataset properties such as network elements, connectivity groups, and network attributes.
- Migrate existing network data sources to ArcGIS network datasets.
- Generate and use turn movements within network datasets.
- Solve routing, closest facility, service area, and origin-destination problems.
- Perform network analysis using tools and models.

Price

ESRI Site: $980 (per seat)

Client Site: $7,640 (per class, up to 12 students)

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* and *ArcGIS Desktop III: GIS Workflows and Analysis* or equivalent knowledge is required. Completion of *Building Geodatabases* is recommended.

Introduction to ArcGIS Survey Analyst

W One module (three hours)—Free

Overview

ArcGIS® technology allows survey data to be stored, managed, and displayed in ArcMap™. This course provides an overview of the functionality offered by the ArcGIS Survey Analyst extension. You will learn how survey data is stored in the geodatabase and how to link existing data to surveyed points, digitize new features from surveyed points, and evaluate the accuracy of mapped features according to their survey measurements.

This course is designed for surveyors and GIS technicians who want to incorporate survey data into ArcGIS.

Goals

After completing this course, you will be able to

- Describe how survey data is stored in the geodatabase.
- Display survey data in ArcMap.
- Adjust feature locations using survey points.
- Digitize a new feature by snapping to survey points.
- Visualize the accuracy of snapped features.

Price: Free

Required software

To complete the exercises, ArcView® 9, ArcEditor™ 9, or ArcInfo® 9 or higher and ArcGIS Survey Analyst 9 or higher are required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations

You should have a basic knowledge of ArcGIS. For those who are new to ArcGIS, prior completion of the free first module of *Learning ArcGIS Desktop* is recommended.

ArcGIS Survey Analyst: Maintaining Land Records Using the Cadastral Editor

ILV Three days (nine hours)

Overview

To be useful, the data stored in a GIS must be accurate. ArcGIS® Survey Analyst 9.2 provides new functionality for maintaining the accuracy of digital parcel boundary geometry and associated GIS data layers. This course introduces the cadastral fabric dataset, which stores a continuous parcel fabric for a jurisdiction as well as survey-based subdivision plans, and Cadastral Editor, which provides a workflow for entering individual parcels and subdivisions using coordinate geometry (COGO) and managing updates to the cadastral fabric. You will learn fundamental concepts of Cadastral Editor as you create a cadastral fabric and edit parcel data and associated datasets.

This course is designed for experienced ArcGIS users who want to create, update, and manage accurate and seamless cadastral networks from survey plans and electronic subdivision data. It is also useful for GIS users who need to work with cadastral datasets and survey information. Land record and survey professionals will find the course of particular benefit.

Goals

After completing this course, you will be able to

- Describe land records and the role of the surveyor.
- Build a cadastral fabric dataset.
- Prepare existing parcel data for migration into the cadastral fabric.
- Migrate data to the cadastral fabric.
- Explain spatial accuracy in the cadastral fabric.
- Apply survey methods for achieving accuracy in the cadastral fabric.
- Use parcel construction tools.
- Append data from an XML file to the cadastral fabric.
- Add control points to the cadastral fabric.
- Georeference GIS feature layers to the cadastral fabric.

Price: $575 (per seat)

Technical requirements

To participate in a Virtual Classroom course, you must have a telephone and a broadband Internet connection. For a complete list of Virtual Classroom technical requirements, visit **www.esri.com/virtualclassroom**.

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required. Completion of *Building Geodatabases* or *Creating, Editing, and Managing Geodatabases for ArcGIS Desktop* is recommended.

Working with ArcGIS Schematics
IL Two days (16 hours)

Overview

This course provides the background knowledge needed to configure schematics projects using ArcGIS® Schematics Designer. You will learn how to create and edit schematic diagrams, about ArcGIS Schematics layout tasks and functions, and how to manage selections between map and schematic views. This course does not cover the end-user interface to ArcGIS Schematics.

This course is designed for administrator-level users who have a working knowledge of the end-user functionality of ArcGIS Schematics and who need to configure schematics projects for distribution within their organization. The course is not intended for those who want to create custom applications using the ArcGIS Schematics ArcObjects™ libraries.

Goals

After completing this course, you will be able to

- Use the ArcGIS Schematics toolbars.
- Create schematics from a selection set or from a tracing result.
- Use predefined algorithms for schema layout.
- Control symbology through the parameters file.
- Understand the different running modes.
- Use the ArcGIS Schematics Designer to customize workspace files.
- Configure schematics project settings using ArcGIS Schematics Designer: data source, diagram types, label and symbology properties, diagram definition based on geometric networks, custom query-based diagram definition, and ArcGIS Schematics rules.

Price

ESRI Site: $980 (per seat)

Client Site: $7,640 (per class, up to 12 students)

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop, ArcGIS Desktop III: GIS Workflows and Analysis,* and *Geodatabase Design Concepts* or *Building Geodatabases* or equivalent knowledge is required.

Learning ArcGIS Spatial Analyst *(also available in Spanish)*
W 🗘 Six modules (18 hours)—The first learning module is free.

Overview

ArcGIS® Spatial Analyst software supports a broad range of sophisticated spatial modeling and analysis applications. This course teaches how to use ArcGIS Spatial Analyst to produce and control raster data and create a variety of raster surfaces. In course exercises, you will work within the ArcGIS geoprocessing environment to create, execute, and automate spatial analysis workflows.

This course is designed for experienced ArcGIS users who want to work with rasters to identify spatial relationships, develop suitability models, or calculate the cost of travel over a surface.

Goals

After completing this course, you will be able to

- Understand basic cell-based modeling concepts.
- Use ArcGIS Spatial Analyst tools in dialog boxes, models, and at the command line.
- Control analysis results using geoprocessing environment settings.
- Create continuous surface maps.
- Create straight-line and cost-weighted distance surfaces.
- Find least-cost paths.
- Generate density maps.
- Convert vector data to raster data.
- Perform viewshed analysis.
- Perform neighborhood and zonal analyses.

Price: $130

Required software

To complete the exercises, ArcView® 9.2, ArcEditor™ 9.2, or ArcInfo® 9.2 or higher and ArcGIS Spatial Analyst 9.2 or higher are required.

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required. If you are new to raster data, you should take *Working with Rasters in ArcGIS Desktop* before taking this course.

"Much better than any textbook. I learned the concepts and then affirmed that knowledge by doing it with the material fresh in my mind."

—William Shamburg, Student
Texas State University
San Marcos, Texas

IL Instructor-Led   **ILV** Virtual Classroom   **IL-PS** Instructor-Led (Professional Services)   **W** Web   🗘 Learning Pathway

Working with ArcGIS Spatial Analyst
IL ◐ Three days (24 hours)

Overview
ArcGIS® Spatial Analyst software provides tools for conducting sophisticated spatial analyses and creating different types of spatial models. This course covers fundamental raster data concepts and shows how to use ArcGIS Spatial Analyst tools to create, process, and analyze spatial data. You will focus on problems that are best solved in a raster environment such as surface analysis and distance measurement. The use of ArcGIS Spatial Analyst tools in the ArcGIS 9 geoprocessing framework is emphasized.

This course is designed for experienced ArcGIS users who want to conduct raster-based analysis, conversion, and editing.

Goals
After completing this course, you will be able to

- Understand fundamental raster concepts.
- Display and query raster data.
- Georeference, transform, and project raster data.
- Create geodatabase raster datasets and raster catalogs.
- Understand how ArcGIS Spatial Analyst tools are organized.
- Apply ArcGIS Spatial Analyst tools for surface and distance analyses.
- Use groundwater hydrology tools.
- Use map algebra functions.
- Interpolate surfaces from sample points.
- Understand basic suitability modeling methodology.
- Use ModelBuilder™ to create suitability models.

Price
ESRI Site: $1,470 (per seat)

Client Site: $11,460 (per class, up to 12 students)

Prerequisites and recommendations
Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required.

Working with ArcGIS Spatial Analyst for Geospatial Intelligence
IL Five days (40 hours)

Overview
ArcGIS® Spatial Analyst software is used by law enforcement, defense, intelligence, and other agencies to support decision making and manage responses to potential threat events. This course teaches how to use ArcGIS Spatial Analyst to create and prepare raster data for use in spatial models. You will learn basic raster concepts and become familiar with the ArcGIS Spatial Analyst tools for creating models. You will also learn how to display data using ArcGIS 3D Analyst™ software visualization tools. Course examples and exercises use scenarios related to intelligence and security issues. The course includes a one-day, scenario-based team exercise in which you build a spatial decision model using typical spatial data to help answer questions about recent intelligence information.

This course is designed for experienced ArcGIS users who want to conduct raster-based analysis for security, defense, and intelligence applications.

Goals
After completing this course, you will be able to

- Navigate the ArcGIS Spatial Analyst interface.
- Understand basic concepts of the raster data model.
- Convert data to raster formats.
- Use map algebra functions.
- Create distance models.
- Interpolate surfaces from sample points.
- Understand and apply basic modeling concepts.
- Create general threat-rating and vulnerability maps.
- Create a spatial decision model for analysis of a potential threat event.
- Display spatial data in three dimensions using ArcGIS 3D Analyst.

Price
ESRI Site: $2,450 (per seat)

Client Site: $19,100 (per class, up to 12 students)

Prerequisites and recommendations
Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required.

Introduction to GIS Data ReViewer
W One module (three hours)

Overview
For data creation, acquisition, and manipulation projects, maintaining data quality from start to finish is essential, but performing data quality control without encumbering the production process has traditionally been a challenge. GIS Data ReViewer™ provides the solution. This course introduces GIS Data ReViewer and some of the tools it provides for reviewing data quality with visual checks. You will learn techniques for systematically reviewing data, recording errors, and creating notepad feature sketches as well as how GIS Data ReViewer can automate spatial and attribute checks. The course covers how to take advantage of data sampling and manage the review cycle.

This course is designed for anyone responsible for or interested in GIS data quality control.

Goals
After completing this course, you will be able to

- Start a GIS Data ReViewer session.
- Configure and run GIS Data ReViewer data checks.
- Conduct a visual data review.
- Create a review sample set.
- Manage records in the GIS Data ReViewer table.

Price: $26

Required software
To complete the exercise, ArcView® 9.2, ArcEditor™ 9.2, or ArcInfo® 9.2 and Production Line Tool Set (PLTS™) for ArcGIS® GIS Data ReViewer 9.2 are required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations
Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required.

Data QC Using GIS Data ReViewer
IL-PS Two days (16 hours)

Overview
GIS Data ReViewer™ (an extension to ArcGIS® Desktop) is a quality control management application that provides a suite of tools designed to simplify many aspects of data validation. This course is intended for those who will be using GIS Data ReViewer to find, track, and correct spatial and attribute errors in GIS data. You will learn different methods for identifying and recording potential errors in the data including automated spatial and attribute checks as well as the more traditional visual data inspection. You will also learn about the ReViewer table, which tracks and manages the status of potential errors.

This course is designed for project managers, spatial data managers, and GIS technicians who will be involved in performing data quality checks using GIS Data ReViewer. This course is appropriate for anyone working with Production Line Tool Set (PLTS™) for ArcGIS—Foundation as well as the PLTS for ArcGIS—Mapping Agency Solution and PLTS for ArcGIS—Defense Solution. This course is also appropriate for anyone using a stand-alone license of the GIS Data ReViewer extension.

Goals
After completing this course, you will be able to

- Understand the QA/QC process and tasks.
- Run automated data checks.
- Create a batch job for performing a cumulative data review.
- Perform a visual review of GIS data.
- Track and manage errors in the ReViewer table.
- Work with correction and verification modes.

Price
ESRI Site: $980 (per seat)

Client Site: $7,640 (per class, up to 12 students)

Prerequisites and recommendations
Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required. Completion of *ArcGIS Desktop III: GIS Workflows and Analysis* and *QA/QC for GIS Data* is recommended.

IL Instructor-Led **ILV** Virtual Classroom **IL-PS** Instructor-Led (Professional Services) **W** Web Learning Pathway

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Introduction to Map Production System—Atlas
W One module (three hours)

Overview
The Map Production System—Atlas (MPS-Atlas™) extension, a component of the Production Line Tool Set (PLTS™) for ArcGIS®, combines map book functionality, dynamic text, data frame managers, and element placement rules into a batch cartographic production system. This course provides an introduction to all the components of MPS-Atlas. You will learn how to batch-print maps, batch-export maps, and batch-save maps to individual files. At the end of the course, you will be able to begin making map series and atlases on your own.

This course is designed for experienced ArcGIS users who want to learn how to use the MPS-Atlas extension for high-volume map production projects.

Goals
After completing this course, you will be able to

- Describe the components of MPS-Atlas.
- Automatically calculate data frame properties.
- Add dynamic map text.
- Set map element placement rules.
- Update a map sheet area of interest.
- Create dynamic page layouts.
- Export and print map sheets.
- Create a simple map series.

Price: $26

Required software
To complete the exercise, ArcView® 9.2, ArcEditor™ 9.2, or ArcInfo® 9.2 or higher and PLTS for ArcGIS MPS-Atlas 9.2 are required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations
Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required.

Cartography with Map Production System—Atlas
IL-PS Two days (16 hours)

Overview
Map Production System—Atlas (MPS-Atlas™) (an extension to ArcGIS® Desktop) is a cartographic production application that provides tools for creating high-quality, high-volume map products, automated map books, and reference grids based on product specifications. In this course, you will learn how to use the MPS-Atlas extension to create high-quality cartographic products. You will work with cartographic tools in this software to create and manage a map series (map book) and learn different techniques for symbolizing data, working with geographic representations, and creating dynamic text and tables in the layout. Additionally, the course discusses creating and applying reference grids to layouts using the Grid Manager tools.

This course is designed for project managers, spatial data managers, and GIS technicians who will be involved in creating cartographic products using MPS-Atlas. This course is appropriate for anyone using Production Line Tool Set (PLTS™) for ArcGIS—Foundation as well as the PLTS for ArcGIS—Mapping Agency Solution and PLTS for ArcGIS—Defense Solution. This course is also appropriate for anyone using a stand-alone license of the MPS-Atlas extension.

Goals
After completing this course, you will be able to

- Understand basic cartographic concepts.
- Create a map series with MPS-Atlas.
- Symbolize features using batch symbolization methods.
- Understand geographic representations and implement them with visual specifications.
- Create and apply dynamic table elements to a layout or a map series.
- Create reference grids.
- Batch print and export cartographic products.

Price
ESRI Site: $980 (per seat)

Client Site: $7,640 (per class, up to 12 students)

Prerequisites and recommendations
Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required. Completion of *ArcGIS Desktop III: GIS Workflows and Analysis* is recommended.

Data Production with PLTS for ArcGIS

IL-PS Three days (24 hours)

Overview

Production Line Tool Set (PLTS™) for ArcGIS® is a collection of software applications developed to extend ArcGIS for high-volume database production, maintenance, and quality control. In this course, you will focus on the data creation aspects of PLTS for ArcGIS. You will learn how to create a production geodatabase and how to establish validation rules using the PLTS for ArcGIS Knowledge Base. You will also gain proficiency with the editing, attribution, and data-loading tools that are included with this software.

This course is designed for those who will be creating and maintaining GIS data using PLTS for ArcGIS. Project managers, spatial data managers, and GIS technicians who will be involved in creating and maintaining production data with this software will find the course of particular benefit. This course is appropriate for anyone working with PLTS for ArcGIS—Foundation as well as PLTS for ArcGIS—Mapping Agency Solution and PLTS for ArcGIS—Defense Solution.

Goals

After completing this course, you will be able to

- Construct a production geodatabase.
- Create, edit, and maintain the knowledge base.
- Load data using Data Loader.
- Edit and attribute features using PLTS for ArcGIS.

Price

ESRI Site: $1,470 (per seat)

Client Site: $11,460 (per class, up to 12 students)

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required. Completion of *ArcGIS Desktop III: GIS Workflows and Analysis* is recommended.

MapObjects Basics

W One module (three hours)—Free

Overview

MapObjects® software is a powerful collection of embeddable mapping and GIS components that allows developers to create end-user applications that include live maps and GIS capabilities. This course provides an overview of the possibilities that MapObjects offers for custom mapping applications and showcases dynamic maps and custom applications developed with MapObjects and Microsoft® Visual Basic®. You will explore the range of MapObjects functionality by running custom applications and examining the code used to build them.

This course is designed for experienced Visual Basic programmers who want to create Windows-based GIS and mapping applications using MapObjects.

Goals

After completing this course, you will be able to

- Understand how Visual Basic and MapObjects work together.
- Describe the range of functionality of MapObjects.
- Add a control that uses a MapObjects component.
- Access map layers.
- Work with coordinates.
- Change symbology.
- Implement geocoding.
- Create and deploy applications.

Price: Free

Required software

To complete the exercises, MapObjects 2.0–2.2 Windows® Edition and Microsoft Visual Basic 6 are required.

Prerequisites and recommendations

You should be an experienced Microsoft Visual Basic programmer.

IL Instructor-Led   **ILV** Virtual Classroom   **IL-PS** Instructor-Led (Professional Services)   **W** Web   Learning Pathway

HAZUS-MH Overview and Installation *by Kevin Mickey*

W One module (three hours)—Free

Overview

This course provides an overview of the capabilities of HAZUS-MH, a loss-estimation tool used by the Federal Emergency Management Agency (FEMA) for earthquake, flood, and hurricane wind hazards. In this course, you learn to install the HAZUS-MH software and define a study region, the area of analysis used by HAZUS-MH. You will also explore the basic types of analysis that HAZUS-MH can perform and learn about the types of information this tool can generate about the social and economic impacts of natural hazards.

This course is designed for new HAZUS-MH users. HAZUS-MH is a tool that is useful to a wide range of audiences including any organization or individuals responsible for planning how to address the economic and social impacts of natural hazards. No ArcGIS® software experience is required.

Goals

After completing this course, you will be able to

- Understand the basic capabilities of the HAZUS-MH program.
- Install HAZUS-MH.
- Create a HAZUS-MH study region.
- Conduct a basic hazard analysis using HAZUS-MH and explore the loss estimations generated by the analysis.

Price: Free

Required software

To complete the exercise, ArcView® 9.2, ArcEditor™ 9.2, or ArcInfo® 9.2; ArcGIS Spatial Analyst 9.2; and HAZUS-MH MR3 are required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations

Completion of the *HAZUS-MH (Multi-Hazards) for Decision Makers* free training seminar or equivalent knowledge about the HAZUS-MH program is recommended.

Introduction to Using HAZUS-MH to Assess Losses from a Riverine Flood Hazard *by Kevin Mickey*

W One module (three hours)

Overview

This course explains the process of defining a riverine flood hazard and performing a loss estimation using HAZUS-MH. While HAZUS-MH offers a wide range of options for defining a flood hazard, this course focuses on the two options that require the least amount of user input—defining a flood hazard based on a return period and defining a flood hazard based on a stream discharge. These procedures are frequently applied by communities interested in understanding the potential social and economic impacts that might occur as a result of flooding.

This course is designed for HAZUS-MH users who want to generate a loss estimation based on a flood hazard.

Goals

After completing this course, you will be able to

- Perform an analysis of a flood hazard based on a user-specified return period.
- Perform an analysis of a flood hazard based on a user-provided stream discharge value.

Price: $26

Required software

To complete the exercise, ArcView® 9.2, ArcEditor™ 9.2, or ArcInfo® 9.2; ArcGIS® Spatial Analyst 9.2; and HAZUS-MH MR3 are required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations

Completion of *HAZUS-MH Overview and Installation* or equivalent knowledge is required.

Integrating User-Supplied Hazard Data into the HAZUS-MH Flood Model *by Kevin Mickey*
W One module (three hours)

Overview
This course teaches the process of integrating hazard data into HAZUS-MH to perform a more precise flood loss-estimation study than is typically possible in a basic HAZUS-MH analysis. The ability to integrate flood hazard data created in other models into HAZUS-MH, where scientifically based loss estimation can be generated, is especially important to those who plan to use HAZUS-MH to support flood insurance studies or support community planning goals. This course covers two methods for integrating flood hazard data created in other modeling applications into a HAZUS-MH flood study. The first method requires a user-defined flood boundary, digital elevation model, and information about a flood surface. The second method requires only a flood depth grid in ESRI Grid format. With the development of products generated by programs such as the Federal Emergency Management Agency (FEMA) Map Modernization Program, the inputs that are required to use these methods are now available to many communities across the United States. The course exercise explores these methods and prepares you to conduct these types of flood loss-estimation studies within your own community.

This course is designed for new HAZUS-MH users who have developed or acquired information about flood hazards in their communities that they want to integrate into the HAZUS-MH loss-estimation process. Flood engineers or those with equivalent experience will find the course of particular benefit.

Goals
After completing this course, you will be able to

- Understand the process and requirements for using the HAZUS-MH Flood Information Tool to develop a flood depth grid that can be used in HAZUS-MH for loss-estimation purposes.
- Integrate a user-defined flood depth grid into a HAZUS-MH loss-estimation process.

Price: $26

Required software
To complete the exercise, ArcView® 9.2, ArcEditor™ 9.2, or ArcInfo® 9.2; ArcGIS® Spatial Analyst 9.2; and HAZUS-MH MR3 are required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations
Completion of *HAZUS-MH Overview and Installation* and *Introduction to Using HAZUS-MH to Assess Losses from a Riverine Flood Hazard* or equivalent knowledge is required.

HAZUS-MH Flood Model Output and Applications
by Kevin Mickey
W One module (three hours)

Overview
The HAZUS-MH Flood model provides tools to define floods of varying magnitudes and estimate the social and economic impacts that result from such events. Loss estimations are based on impacts to the built environment and to the populations that live in communities impacted by flooding. They account for such things as damages to buildings and their contents, losses to essential facilities, impacts on transportation and utility lifelines, and impacts on agriculture. In addition, they also address such things as debris generation and shelter requirements. This course provides an overview of the many types of output that the flood model can generate, with a focus on how this information can be effectively used by communities to better plan for and prevent losses from flood events.

This course is designed for HAZUS-MH users who want to generate an estimation of social and economic impacts that might be sustained as a result of a flood hazard. Community planners, emergency managers, decision makers, academics, and any other person or organization involved with managing the risks to communities from flood events will find the course of particular benefit.

Goals
After completing this course, you will be able to

- Identify the types of information that HAZUS-MH can generate about social and economic impacts from flood events.
- Understand how HAZUS-MH can be used to identify and explore the effectiveness of actions that can reduce the loss of life and property sustained as a result of flooding.

Price: $26

Required software
To complete the exercise, ArcView® 9.2, ArcEditor™ 9.2, or ArcInfo® 9.2; ArcGIS® Spatial Analyst 9.2; and HAZUS-MH MR3 are required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations
Completion of *HAZUS-MH Overview and Installation* and *Introduction to Using HAZUS-MH to Assess Losses from a Riverine Flood Hazard* or equivalent knowledge is required.

Introduction to Using HAZUS-MH for Hurricane Loss Estimation *by Kevin Mickey*

W One module (three hours)

Overview

The HAZUS-MH Hurricane Wind model is a tool for assessing the losses that might be experienced from a hurricane. This model has the capability to assess impacts from historic storms as well as user-defined storms, and can also consider the impact of storms based on their probability of occurring. In this course, you will learn the abilities of HAZUS-MH to generate estimates of building damage estimates, shelter needs, and economic impacts from hurricane wind events. In the course exercise, you define a hurricane scenario and review its social and economic impacts.

This course is designed for HAZUS-MH users who want to generate an estimation of social and economic impacts that might be sustained as a result of a hurricane hazard. Community planners, emergency managers, decision makers, academics, and any other person or organization that is involved with aspects of managing the risks to communities from hurricane events and that needs to understand how HAZUS-MH can be used to help mitigate those risks will find the course of particular benefit.

Goals

After completing this course, you will be able to

- Identify the types of information that HAZUS-MH can generate about social and economic impacts from hurricane events.
- Understand how HAZUS-MH can be used to identify and explore the effectiveness of actions that can reduce the loss of life and property sustained as a result of hurricane winds.

Price: $26

Required software

To complete the exercise, ArcView® 9.2, ArcEditor™ 9.2, or ArcInfo® 9.2 and HAZUS-MH MR3 are required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations

Completion of *HAZUS-MH Overview and Installation* or equivalent knowledge is required.

Introduction to Using HAZUS-MH for Earthquake Loss Estimation *by Kevin Mickey*

W One module (three hours)

Overview

The HAZUS-MH Earthquake model considers information about building stock, economic data, geology, the location and size of potential earthquakes, and other information to estimate losses that might be incurred from an earthquake. Once the location and size of a hypothetical earthquake are identified, the model estimates the violence of the ground shaking, the number of buildings damaged, the number of casualties, the amount of damage to transportation systems, disruption to the electrical and water utilities, the number of people displaced from their homes, estimated cost of repairing the projected damage, and other effects. In the course exercise, you define an earthquake scenario and review its social and economic impacts.

This course is designed for HAZUS-MH users who want to want to generate an estimation of social and economic impacts that might be sustained as a result of an earthquake. Community planners, emergency managers, decision makers, academics, and any other person or organization that is involved with aspects of managing the risks to communities from earthquakes and that needs to understand how HAZUS-MH can be used to help mitigate those risks will find the course of particular benefit.

Goals

After completing this course, you will be able to

- Identify the types of information that HAZUS-MH can generate about social and economic impacts from earthquake events.
- Understand how HAZUS-MH can be used to identify and explore the effectiveness of actions that can reduce the loss of life and property sustained as a result of an earthquake.

Price: $26

Required software

To complete the exercise, ArcView® 9.2, ArcEditor™ 9.2, or ArcInfo® 9.2 and HAZUS-MH MR3 are required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations

Completion of *HAZUS-MH Overview and Installation* or equivalent knowledge is required.

Customizing ArcGIS Desktop

W Two modules (six hours)

Overview

Customizing the default ArcGIS® interface to match user preferences and workflows does not require hours of programming—anyone can achieve custom functionality using the available resources. This course teaches you how to rearrange ArcCatalog™ and ArcMap™ interface controls and take advantage of available code samples to match individual preferences and workflows. The course takes you through the process of finding and implementing existing Visual Basic for Applications code samples to quickly get custom functionality.

This course is designed for experienced ArcGIS users who want to change the software interface and get custom functionality without learning how to write code.

Goals

After completing this course, you will be able to

- Modify the appearance and location of interface elements.
- Save and reuse interface customizations.
- Create custom buttons and tools.
- Add custom functionality using macros and dynamic link libraries.
- Use code to make advanced feature attribute calculations.
- Find code samples using online resources.

Price: $52

Required software

To complete the exercises, ArcView® 9.2, ArcEditor™ 9.2, or ArcInfo® 9.2 or higher is required.

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required.

Customizing ArcMap: Easy Ways to Extend the Interface

W ⟲ One module (three hours)

Overview

You don't need to be an experienced programmer to customize ArcMap™. This course introduces easy ways to add custom functionality to the ArcMap interface. Using sample Visual Basic® and Visual Basic for Applications code, you will learn how to add, remove, and rearrange toolbars and menus; create new buttons, tools, commands, and shortcut keys; and access commands that are not on the ArcMap interface.

This course is designed for ArcGIS® users who would like to customize the ArcMap default interface or extend its functionality.

Goals

After completing this course, you will be able to

- Use the Customize dialog box to add, delete, and move buttons and tools on standard ArcMap toolbars.
- Create a custom toolbar.
- Modify a shortcut key.
- Find sample code and run it as a macro.
- Associate a macro with a tool on a toolbar.
- Save customizations only to the current map document or to all ArcMap sessions.

Price: $26

Required software

To complete the exercises, ArcView® 9, ArcEditor™ 9, or ArcInfo® 9 or higher is required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations

Completion of *Getting Started with GIS* or equivalent knowledge is required. No programming experience is required.

IL Instructor-Led   ILV Virtual Classroom   IL-PS Instructor-Led (Professional Services)   W Web   ⟲ Learning Pathway

Introduction to Visual Basic 6

W Six modules (18 hours)—The first learning module is free.

Overview

This course teaches the fundamental concepts of the Visual Basic® programming language. You will learn and immediately apply object-oriented programming concepts as you develop a Visual Basic application from start to finish. Some advanced topics are covered including class modules and Component Object Model (COM) objects. At the end of the course, you will debug, deploy, and package your finished application.

This course is designed for those with no Visual Basic or programming experience. The foundation-level programming skills taught in this course prepare you for courses that teach customization of ArcGIS® and MapObjects®.

Goals

After completing this course, you will be able to

- Describe the available Visual Basic controls.
- Control program flow using variables, constants, procedures, and functions.
- Access online help for Visual Basic.
- Work with multiform forms, standard modules, menus, arrays, and collections.
- Incorporate class modules and COM objects into an application.
- Debug, deploy, and package an application.

Price: $130

Required software

To complete the exercises, Microsoft® Visual Basic 6 Professional or Enterprise Edition and Microsoft Developer Network (MSDN®) Library are required.

Prerequisites and recommendations

Knowledge of Windows-based software for basic file management and browsing is required.

Learning Visual Basic for Applications for New ArcGIS Developers

W Six modules (18 hours)—The first learning module is free.

Overview

This course teaches the fundamental concepts of programming using Microsoft Visual Basic for Applications (VBA), the development environment used for customizing ArcGIS® Desktop. You will learn and immediately apply object-oriented programming concepts as you develop VBA solutions from start to finish. This course is designed for those who are new to programming and want to learn essential programming techniques to write effective code. At the end of the course, you will have the core skills necessary to begin working with ArcObjects™.

This course is designed for ArcGIS users with no VBA or programming experience. The foundation-level programming skills taught in this course will prepare you for courses that teach customization of ArcGIS software using ArcObjects.

Goals

After completing this course, you will be able to

- Customize the user interface and create interactive forms.
- Develop efficient code using variables, constants, procedures, and functions.
- Access help resources for VBA.
- Enhance code using form management, arrays, and collections.
- Interact with classes and COM objects.
- Solidify programs using debugging and error-handling techniques.

Price: $130

Required software

To complete the exercises, ArcView® 9.1, ArcEditor™ 9.1, or ArcInfo® 9.1 or higher is required.

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required. No programming knowledge is required.

"As a novice in developing and customizing ArcGIS, this course helped me a lot, and I look forward to extending my skills and using what I have learned in the future."

—Sohel J. Ahmed, Ph.D. Student
Herriot Watt University
Edinburgh, MLN, United Kingdom

Exploring the VBA Environment

W One module (three hours)—Free

Overview

ArcGIS® users can customize and extend the functionality of the interface using Visual Basic® for Applications (VBA), the programming environment included with the software. This course is the first in a series of focused courses on VBA. You will learn the basic components of VBA and the Visual Basic Editor, fundamental programming terminology, where VBA code is stored, how VBA code is structured, and how to access and work with Visual Basic Help.

This course is designed for ArcGIS users with no VBA or programming experience who want to become familiar with the VBA environment.

Goals

After completing this course, you will be able to

- Run a VBA macro.
- Navigate the Visual Basic Editor.
- Search for topics in the Visual Basic Help.
- Create a code module and a simple procedure.
- Understand the different options for saving customizations.
- Add a macro to a toolbar using the Customize dialog box.

Price: Free

Required software

To complete the exercises, ArcView® 9, ArcEditor™ 9, or ArcInfo® 9 or higher is required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations

Completion of *Getting Started with GIS* or equivalent knowledge is required. No VBA or programming experience is required. Prior completion of *Customizing ArcMap: Easy Ways to Extend the Interface* is recommended for those who want to learn how to customize ArcMap™ using sample code.

Working with Variables and Functions in VBA

W One module (three hours)

Overview

Building on the foundation provided in *Exploring the VBA Environment,* this course teaches fundamental Visual Basic for Applications (VBA) programming techniques that can be used to extend the functionality of the ArcGIS® interface. You will learn VBA syntax rules and code structure as you work with predefined functions, declare and calculate variables, and use variables with input boxes and message boxes.

This course is designed for ArcGIS users who want to learn VBA programming techniques to customize the ArcGIS interface and create custom solutions.

Goals

After completing this course, you will be able to

- Describe the different types of variable scope.
- List naming conventions for variables used in VBA.
- Declare different types of variables.
- Change the value stored in a variable.
- Use the message box and input box functions.

Price: $26

Required software

To complete the exercises, ArcView® 9, ArcEditor™ 9, or ArcInfo® 9 or higher is required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations

Completion of *Getting Started with GIS* or equivalent knowledge is required. Familiarity with the VBA environment is also required. Prior completion of *Exploring the VBA Environment* is recommended.

IL Instructor-Led   ILV Virtual Classroom   IL-PS Instructor-Led (Professional Services)   W Web   ⟲ Learning Pathway

Working with Forms in VBA
W One module (three hours)

Overview

In the ArcGIS® environment, GIS technicians use Visual Basic for Applications (VBA) to customize communication with users through forms. In this course, the third in the VBA series of focused courses, you will learn exactly what VBA forms are, common uses of forms, the two parts of a form, how to design and write code to make new forms, and how to incorporate these forms into the ArcMap™ interface.

This course is designed for ArcGIS users who want to learn VBA programming techniques to customize the ArcGIS interface and create custom solutions.

Goals

After completing this course, you will be able to

- Create a form for user interaction.
- Set form properties.
- Add controls to a form and set their properties.
- Associate code with the event procedures of controls on a form.
- Write code to call a form from another form.
- Associate a form with a button on the interface.

Price: $26

Required software

To complete the exercises, ArcView® 9, ArcEditor™ 9, or ArcInfo® 9 or higher is required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations

Completion of *Getting Started with GIS* or equivalent knowledge is required. Familiarity with the VBA environment is also required. Prior completion of *Exploring the VBA Environment* and *Working with Variables and Functions in VBA* is recommended.

Understanding Branching and Looping in VBA
W One module (three hours)

Overview

Branching allows programs to execute different code based on user input or the result of a process. With looping, programs can repeat processes until specific conditions are met. This course is the fourth in the Visual Basic® for Applications (VBA) series of focused courses and introduces the two branching methods (the If Then Else statement and the Select Case statement) and the two looping structures (the For Next loop and the Do loop) that are available in the VBA environment. You will learn how to implement branching and looping to make your code more robust. The course also teaches how branching and looping can be used in conjunction with ArcObjects™.

This course is designed for ArcGIS® users who want to learn VBA programming techniques to customize the ArcGIS interface and create custom solutions.

Goals

After completing this course, you will be able to

- Write If Then Else statements.
- Find and use sample code.
- Write Select Case statements.
- Explain the difference between a For Next loop and a Do loop and know when to use each.
- Use conditional statements and loops together in code.

Price: $26

Required software

To complete the exercises, ArcView® 9, ArcEditor™ 9, or ArcInfo® 9 or higher is required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations

Completion of *Getting Started with GIS* or equivalent knowledge is required. You should also be familiar with the VBA environment. Prior completion of *Exploring the VBA Environment, Working with Variables and Functions in VBA,* and *Working with Forms in VBA* is recommended.

Introduction to Programming ArcObjects Using the Java Platform

IL Three days (24 hours)

Overview

The ArcObjects™ libraries provide a rich set of functionality that developers can use to build powerful GIS applications. ArcObjects components are the building blocks of the ArcGIS® family of products including ArcGIS Desktop, ArcGIS Engine, and ArcGIS Server. This course introduces the ArcObjects libraries and teaches how to develop custom applications with ArcObjects using the Java™ platform. In course exercises, you will use the ArcObjects—Java developer resources to create applications and tools that perform a variety of GIS tasks including map navigation, feature selection and rendering, spatial operations, data projection, and editing. The course emphasizes the workflows required to build custom ArcObjects applications for ArcGIS Engine and ArcGIS Server.

This course is designed for those experienced with ArcGIS and Java but who are new to programming ArcObjects. Java developers who would like to become familiar with the functionality available with ArcObjects in order to build custom ArcGIS Engine or ArcGIS Server applications will benefit from this course.

Goals

After completing this course, you will be able to

- Effectively use the components of the software development kit (SDK) and developer tools to implement custom functionality.
- Use ArcObjects to develop GIS functionality using the Java platform.
- Write reusable code for automating tasks in ArcGIS Engine or ArcGIS Server applications.

Price

ESRI Site: $1,470 (per seat)

Client Site: $11,460 (per class, up to 12 students)

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required. Intermediate programming experience using Java 2 Standard Edition (J2SE) is also required.

Introduction to Programming ArcObjects Using the Microsoft .NET Framework

IL Three days (24 hours)

Overview

ArcObjects™ components are the building blocks of the ArcGIS® family of products, and the ArcObjects libraries provide a set of software components and a framework for developing GIS applications. This course introduces the ArcObjects libraries to Microsoft® .NET programmers and teaches how to develop custom GIS applications. You will work with ArcGIS Engine controls and .NET development tools and learn how to use help resources. In the course exercises, you will work with the ArcObjects .NET developer resources and ArcGIS Engine controls to create applications that perform specific GIS tasks including map navigation, feature selection and rendering, spatial operations, data projection, data management, editing, geoprocessing, and map creation.

This course is designed for experienced Microsoft .NET programmers who want to develop applications using ArcObjects.

Goals

After completing this course, you will be able to

- Describe the architecture of the core ArcObjects libraries.
- Illustrate the most effective ways to use the components of the software development kit (SDK) and developer tools to implement custom functionality.
- Use ArcObjects to develop GIS functionality using .NET.
- Customize .NET forms with ArcGIS Engine controls.
- Write reusable code for automating tasks in ArcGIS.

Price

ESRI Site: $1,470 (per seat)

Client Site: $11,460 (per class, up to 12 students)

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required. Additionally, you must have a basic proficiency with Visual Basic® .NET or C# .NET and be able to declare and use variables, write functions and subprocedures, use conditional statements (If Then Else, Select Case), work with loops, create forms, add controls, and write event procedures.

IL Instructor-Led   ILV Virtual Classroom   IL-PS Instructor-Led (Professional Services)   W Web   Learning Pathway

Introduction to Programming ArcObjects Using VBA

▌L Three days (24 hours)

Overview

ArcObjects™ components are the building blocks of the ArcGIS® family of products, and the ArcObjects libraries provide a rich set of functionality that developers can use to build powerful GIS applications. This course introduces the ArcObjects libraries to Visual Basic® for Applications (VBA) programmers and teaches how to develop custom applications and solutions that extend core ArcGIS functionality. You will work with VBA development tools and the ArcGIS Customize dialog box and learn how to access online help resources. In course exercises, students use the ArcObjects VBA developer resources to create applications and tools that perform specific GIS tasks including map navigation, feature selection and rendering, spatial operations, data projection, editing, and geoprocessing. The course emphasizes the workflows required to build custom ArcObjects applications for ArcGIS.

This course is designed for experienced VBA developers and for experienced ArcGIS users who are new to programming ArcObjects.

Goals

After completing this course, you will be able to

- Customize the ArcGIS graphical user interface.
- Describe the architecture of the ArcObjects core libraries.
- Illustrate the most effective ways to use the components of the software development kit (SDK) and developer tools to implement custom functionality.
- Use ArcObjects to develop GIS functionality using VBA.
- Write reusable code for automating tasks in ArcGIS.

Price

ESRI Site: $1,470 (per seat)

Client Site: $11,460 (per class, up to 12 students)

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required. Intermediate programming experience in Visual Basic (VB) or VBA is also required. If you have no VB or VBA programming experience, you should take *Learning Visual Basic for Applications for New ArcGIS Developers* or *Introduction to Visual Basic 6* before taking this class.

Extending the ArcGIS Desktop Applications

▌L Three days (24 hours)

Overview

The ArcGIS® Desktop applications, including ArcMap™, ArcCatalog™, ArcScene™, and ArcGlobe™, all share a common application framework. Developers can extend these applications with custom buttons, tools, windows, and extensions to provide additional functionality to end users. This advanced course shows how to customize and extend ArcGIS applications by building custom COM components. You will learn the fundamentals of the application framework and the types of customizations that are possible. In course exercises, you will build custom COM components and learn how to seamlessly integrate them into ArcGIS Desktop applications.

This course is designed for experienced ArcObjects™ programmers. Course exercises can be completed using Visual Basic® .NET, C#, or Visual Basic 6. The lecture portion of the course mainly focuses on developing using the .NET languages.

Goals

After completing this course, you will be able to

- Understand the ArcGIS application framework.
- Build custom COM components.
- Implement ESRI® interfaces.
- Work with component categories.
- Understand the ArcGIS-Visual Studio® .NET integration.
- Integrate components into ArcGIS Desktop applications.
- Create custom commands, tools, toolbars, and menus.
- Create custom dockable windows, property sheets, and views.
- Create custom application, class, and editor extensions.
- Persist data in map documents.
- Create geoprocessing tools.
- Deploy solutions.

Price

ESRI Site: $1,470 (per seat)

Client Site: $11,460 (per class, up to 12 students)

Prerequisites and recommendations

Completion of *Introduction to Programming ArcObjects Using VBA* or *Introduction to Programming ArcObjects Using the Microsoft .NET Framework* or six months' experience programming with ArcObjects is required. You should have experience programming with COM and Visual Basic 6, Visual Basic .NET, or C#. You should also be familiar with the ArcObjects developer resources such as the Developer Help and object model diagrams.

Introduction to Geoprocessing Scripts Using Python

IL ⟲ Two days (16 hours)

Overview

The ArcGIS® 9 geoprocessing framework includes a scripting environment, and Python® is the scripting language included with ArcGIS. This course introduces Python and shows how it can be used to access and automate geoprocessing functionality. You will learn Python scripting syntax, then begin writing scripts to automate geoprocessing operations. You will also learn how to incorporate Python scripts as custom tools in ArcToolbox™.

This course is designed for experienced ArcGIS users who want to learn how to automate everyday processes or create complex analytical scripts. ARC Macro Language (AML™) and Avenue™ programmers who want to write scripts for ArcGIS 9 will also find the course of interest.

Goals

After completing this course, you will be able to

- Understand the basics of the Python® scripting language.
- Understand how scripts can be used in the ArcGIS geoprocessing framework.
- Incorporate tools and environment settings into scripts.
- Incorporate cursors, describe objects, and enumerations into scripts.
- Work with scripts in ArcToolbox.
- Access resources for debugging Python code.

Price

ESRI Site: $980 (per seat)

Client Site: $7,640 (per class, up to 12 students)

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* and *ArcGIS Desktop III: GIS Workflows and Analysis* or equivalent knowledge is required. Basic programming skills, such as using loops and conditional statements, are also required.

Writing Advanced Geoprocessing Scripts Using Python

IL Three days (24 hours)

Overview

Building on the skills and knowledge taught in *Introduction to Geoprocessing Scripts Using Python,* this course teaches intermediate to advanced Python scripting techniques for the ArcGIS® geoprocessing framework. You will begin by refining your Python® scripting skills as you manipulate several key data types and create effective, reusable code. You will then apply these skills to execute custom geoprocessing functionality. The course covers how to incorporate Python scripts into the ModelBuilder™ environment and prepares you to leverage the full capabilities of Python scripting within the ArcGIS geoprocessing framework.

This course is designed for experienced ArcGIS users who want to create Python scripts to automate complex geoprocessing tasks.

Goals

After completing this course, you will be able to

- Manipulate Python's key data types including strings, lists, and dictionaries.
- Write Python scripts to read and write text files.
- Create reusable code.
- Create scripts that read existing geometries and create new geometries.
- Work with subsets of data.
- Implement data management techniques on file-based and multiuser geodatabases.
- Incorporate Python scripts into the ModelBuilder environment.

Price

ESRI Site: $1,470 (per seat)

Client Site: $11,460 (per class, up to 12 students)

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop, ArcGIS Desktop III: GIS Workflows and Analysis,* and *Introduction to Geoprocessing Scripts Using Python* or equivalent knowledge is required. You should have experience applying the concepts and syntax taught in *Introduction to Geoprocessing Scripts Using Python.* In particular, experience writing Python scripts that contain variables, loops, and standard ArcGIS geoprocessing tools is required.

IL Instructor-Led   ILV Virtual Classroom   IL-PS Instructor-Led (Professional Services)   W Web   ⟲ Learning Pathway

Developing Applications with ArcGIS Engine Using the Microsoft .NET Framework

IL Two days (16 hours)

Overview

ArcGIS® Engine Developer Kit includes a set of embeddable software components and a toolkit that can be used to build stand-alone applications. This advanced course shows how to use ArcGIS Engine Developer Kit to build custom applications for the Windows® platform using the Microsoft® .NET development environment. You will be introduced to ArcGIS Engine and the components, libraries, and APIs included with ArcGIS Engine Developer Kit. You will learn the types of applications that can be created, the licensing and authorization model, and how to deploy applications with ArcGIS Engine Runtime. The course also teaches how to build custom components that extend the ArcGIS Engine controls framework.

This course is designed for experienced ArcObjects™ programmers who have Windows, Microsoft .NET, and COM development experience. Course exercises can be completed using Visual Basic® .NET or C#.

Goals

After completing this course, you will be able to

- Install ArcGIS Engine Developer Kit.
- Configure the system and development environments.
- Use the ESRI® add-ons and developer tools.
- Understand the licensing model.
- Authorize applications with different levels of licenses.
- Build stand-alone applications.
- Read and write map document files.
- Store user settings.
- Deploy ArcGIS Engine Runtime.

Price

ESRI Site: $980 (per seat)

Client Site: $7,640 (per class, up to 12 students)

Prerequisites and recommendations

Completion of *Introduction to Programming ArcObjects Using VBA* or *Introduction to Programming ArcObjects Using the Microsoft .NET Framework* or six months' experience programming with ArcObjects is required. You should also have experience programming with COM and Visual Basic .NET or C#. Review the *ArcGIS Desktop Developer Guide* prior to class. Prior completion of *Extending the ArcGIS Desktop Applications* is recommended.

Introduction to the Multiuser Geodatabase

IL ⟳ Two days (16 hours)

Overview

The multiuser geodatabase uses ArcSDE® technology and a relational database management system (RDBMS) to store large amounts of GIS data that many users may concurrently access. This course, designed for the end user of a multiuser geodatabase, bridges the gap between the ArcSDE administrator and the GIS professional and shows how to leverage the powerful capabilities offered by the multiuser geodatabase. You will learn how to apply GIS skills in a multiuser environment and how the multiuser environment differs from the personal geodatabase (single user) environment. The course also discusses geodatabase functionality in the context of an editing environment, fundamental editing workflow procedures, and client-side performance considerations. This course does not focus on a specific supported RDBMS and is suitable for users working with desktop, workgroup, and enterprise ArcSDE geodatabases.

This course is designed for experienced ArcGIS® users who are familiar with the geodatabase data model and are migrating to an ArcSDE geodatabase environment. GIS managers will also find the course a useful introduction to the capabilities and uses of a multiuser geodatabase.

Goals

After completing this course, you will be able to

- Describe advantages of working with an ArcSDE geodatabase.
- Understand the difference between desktop, workgroup, and enterprise ArcSDE geodatabases.
- Understand basic ArcSDE and RDBMS software architecture.
- Create and manage desktop and workgroup ArcSDE geodatabases.
- Understand properties of connections.
- Examine vector and raster data in a multiuser geodatabase.
- Edit data stored in a multiuser geodatabase.
- Understand fundamental concepts of versioning workflow procedures.
- Perform one-way geodatabase replication for editing.
- Optimize the performance of client applications.

Price

ESRI Site: $980 (per seat)

Client Site: $7,640 (per class, up to 12 students)

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* and *ArcGIS Desktop III: GIS Workflows and Analysis* or equivalent knowledge is required. No database administration experience is required.

Managing Editing Workflows in a Multiuser Geodatabase
IL ⟳ Three days (24 hours)

Overview

When deploying an ArcSDE® geodatabase, the editing workflow that is administered can mean the difference between success and failure. This course provides an insider's look at how to manage editing workflows in a multiuser geodatabase. You will learn how to use the different editing environments and how to integrate these environments into your business workflow. This course teaches how to perform both nonversioned and versioned editing. You will learn how ArcSDE software implements versioned and nonversioned editing through the use of geodatabase system metadata tables and user delta tables. Solid strategies for maintaining multiuser geodatabase performance are explored.

This course is designed for ArcSDE users and experienced ArcGIS® users who want to learn how to manage their editing environment in a multiuser geodatabase. This course is suitable for users working with desktop, workgroup, and enterprise ArcSDE geodatabases.

Goals

After completing this course, you will be able to

- Understand the importance of designing an editing workflow.
- Edit data in a nonversioned and versioned environment.
- Discuss and implement various editing workflows.
- Understand ArcSDE system tables and user delta tables.
- Understand how to manage multiple versions.
- Use geodatabase archiving.
- Describe geodatabase replication.
- Create and use multiversioned views.
- Monitor versioned geodatabase performance.
- Understand and implement techniques for maintaining performance.

Price

ESRI Site: $1,470 (per seat)

Client Site: $11,460 (per class, up to 12 students)

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Deskto*p or equivalent knowledge is required. Familiarity with ArcSDE architecture and working on a Windows® platform is also required.

Data Management in the Multiuser Geodatabase
IL ⟳ Three days (24 hours)

Overview

ArcSDE® technology is an integrated part of ArcGIS® Server and is used to access multiuser geographic databases stored in relational database management systems (RDBMS). This course prepares GIS and database administrators to implement an ArcSDE geodatabase by teaching how to load and manage ArcSDE data. The course presents concepts applicable to both workgroup and enterprise ArcSDE geodatabases but focuses primarily on the enterprise ArcSDE geodatabase. You will learn the basic architecture of a multiuser geodatabase and will be introduced to ArcSDE connection types. The course focuses on loading and managing vector and raster data and emphasizes best practices for interacting with a multiuser geodatabase. You will explore multiuser geodatabase design strategies and editing options for data stored in a multiuser geodatabase including versioning.

This course is designed for GIS and database administrators who want to implement a workgroup or enterprise ArcSDE geodatabase. This course pairs well with the *ArcGIS Server Enterprise Configuration and Tuning for Oracle* and *ArcGIS Server Enterprise Configuration and Tuning for SQL Server* courses.

Goals

After completing this course, you will be able to

- Describe the multiuser geodatabase architecture.
- Create connections to an enterprise ArcSDE geodatabase.
- Understand and manage user permissions.
- Design, load, and manage vector and raster data.
- Describe client optimization practices.
- Understand editing options in a multiuser geodatabase.
- Understand the basic architecture and workflow of multiuser editing.

Price

ESRI Site: $1,470 (per seat)

Client Site: $11,460 (per class, up to 12 students)

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required. You should also be familiar with basic RDBMS concepts.

IL Instructor-Led ILV Virtual Classroom IL-PS Instructor-Led (Professional Services) W Web ⟳ Learning Pathway

ArcGIS Server Enterprise Configuration and Tuning for Oracle

IL ⟳ Two days (16 hours)

Overview

ArcGIS® Server includes ArcSDE® technology, a server-side software product that acts as the GIS gateway to spatial data stored in relational database management systems. It is an integrated part of ArcGIS and a core element of any enterprise GIS solution. This course prepares Oracle® database administrators to implement an ArcSDE enterprise geodatabase by teaching how to build an individual ArcSDE server. You will become familiar with the ArcSDE architecture and learn how to configure Oracle to support ArcSDE, install and configure ArcSDE, and identify and troubleshoot connection types and issues. The course emphasizes the importance of managing storage settings for loading vector and raster data and teaches techniques for maintaining geodatabase performance in an editing environment. Additionally, the course explains how ArcSDE software interacts with Oracle databases and presents solid strategies for maintaining and managing a multiuser geodatabase.

This course is designed for experienced Oracle database administrators who need to understand how to install and configure an ArcSDE enterprise geodatabase and how to manage a multiuser editing environment. You may choose to also enroll in *Data Management in the Multiuser Geodatabase,* which complements this course.

Goals

After completing this course, you will be able to

- Configure Oracle to support ArcSDE.
- Install and configure ArcSDE.
- Create multiple ArcSDE workspaces.
- Customize storage for ArcSDE data.
- Configure, create, and monitor connections.
- Implement data management strategies for vector and raster data.
- Optimize ArcSDE.
- Maintain performance of a multiuser geodatabase.

Price

ESRI Site: $980 (per seat)

Client Site: $7,640 (per class, up to 12 students)

Prerequisites and recommendations

Experience with Oracle database administration or application development is required. Although these courses are not required, you may benefit from completing *ArcGIS Desktop II: Tools and Functionality, ArcGIS Desktop III: GIS Workflows and Analysis,* or *Building Geodatabases.*

ArcGIS Server Enterprise Configuration and Tuning for SQL Server

IL ⟳ Two days (16 hours)

Overview

ArcGIS® Server includes ArcSDE® technology, a server-side software product that acts as the GIS gateway to spatial data stored in relational database management systems. It is an integrated part of ArcGIS and a core element of any enterprise GIS solution. This course prepares Microsoft® SQL Server® database administrators to implement a multiuser geodatabase by teaching how to build an individual ArcSDE server. You will become familiar with the ArcSDE architecture and learn how to configure SQL Server to support ArcSDE, install and configure ArcSDE, and identify and troubleshoot connection types and issues. The course emphasizes the importance of managing storage settings for loading vector and raster data and teaches techniques for maintaining geodatabase performance in an editing environment. Additionally, the course explains how ArcSDE software interacts with SQL Server databases and presents solid strategies for maintaining and managing a multiuser geodatabase.

This course is designed for experienced SQL Server database administrators who need to understand how to install and configure an ArcSDE multiuser geodatabase. You may choose to also enroll in *Data Management in the Multiuser Geodatabase,* which complements this course.

Goals

After completing this course, you will be able to

- Configure SQL Server to support ArcSDE.
- Install and configure ArcSDE.
- Create multiple ArcSDE workspaces.
- Customize storage for ArcSDE data.
- Configure, create, and monitor connections.
- Implement data management strategies for vector and raster data.
- Optimize ArcSDE.
- Maintain performance of a multiuser geodatabase.

Price

ESRI Site: $980 (per seat)

Client Site: $7,640 (per class, up to 12 students)

Prerequisites and recommendations

Experience with SQL Server database administration or application development is required. Although these courses are not required, you may benefit from completing *ArcGIS Desktop II: Tools and Functionality, ArcGIS Desktop III: GIS Workflows and Analysis,* or *Building Geodatabases.*

ArcGIS Enterprise Systems: Performance and Scalability
IL-PS Three days (24 hours)

Overview

Every component in an enterprise system affects its performance and scalability. This course addresses major issues known to affect the performance and scalability of ArcGIS® enterprise systems. You will learn how to configure the various system components (client-side and server-side components) and tune for performance. Approaching enterprise systems from a "system" perspective— a broad view incorporating client-side customization and DBMS configuration—this course analyzes the interaction of components. A series of group exercises demonstrates best-practice concepts and tuning techniques.

This course is designed for enterprise system developers, architects, and database administrators who are currently or will be developing and maintaining enterprise systems using ArcGIS Desktop, ArcSDE®, ArcGIS Engine, or ArcGIS Server.

Goals

After completing this course, you will be able to

- Examine typical enterprise server scalability and performance issues.
- Understand how ArcObjects™ customization affects enterprise server scalability and performance.
- Survey geodatabase performance.
- Determine location of performance and scalability problems in an enterprise system.
- Describe how ArcGIS products work together in an enterprise system.

Price

ESRI Site: $1,470 (per seat)

Client Site: $11,460 (per class, up to 12 students)

Prerequisites and recommendations

An advanced understanding of ArcObjects and ArcSDE is required. You should also be actively involved in the design, development, or deployment of an enterprise system.

System Architecture Design Strategies
IL-PS Three days (24 hours)

Overview

To establish a successful enterprise GIS operation, an understanding of current technology and appropriate design strategies is essential. This course provides an overview of GIS infrastructure architecture alternatives and system architecture design strategies required to support successful enterprise operations. You will be given comprehensive guidelines for planning and selecting the right system architecture to support your deployment needs. The course also covers unique performance validation and system capacity planning techniques used to support productive operations.

This course is designed for senior architecture consultants and software technical architects who will benefit from the GIS design methodology presented. GIS managers and programmers who need to understand system architecture and hardware capacity planning criteria will find this course of interest. System administrators who need to understand and identify performance problems with existing GIS environments will also benefit.

Goals

After completing this course, you will be able to

- Understand the system architecture design planning process.
- Describe architecture alternatives for deploying enterprise GIS operations.
- Select a target enterprise design solution to support capacity planning needs.

Price

ESRI Site: $1,470 (per seat)

Client Site: $11,460 (per class, up to 12 students)

Prerequisites and recommendations

Review the ESRI® technical reference document titled *System Design Strategies* at www.esri.com/systemdesign prior to coming to class.

Introduction to ArcGIS Image Server

IL Two days (16 hours)

Overview

ArcGIS® Image Server provides fast access to file-based geospatial imagery, allowing organizations to distribute the imagery to a variety of clients and leverage their investment in the data. This course teaches how to manage and serve image data using ArcGIS Image Server. You will learn how to work with different raster formats and ArcGIS Image Server raster types, author image services, and deploy panchromatic and multiband imagery. You will also learn how to generate derivative rasters, tiles, and service overviews; apply compressions; access geometric and image processing techniques; and access image services through Image Server Viewer and ArcMap™.

This course is designed for those new to ArcGIS Image Server who want to learn about its architecture and functionality. You do not need to know image processing or other remote-sensing techniques. This course does not cover image analysis.

Goals

Those completing this course will be able to

- Work with different raster formats and ArcGIS Server raster types.
- Enhance imagery using techniques such as pan sharpening and contrast stretching.
- Describe the Image Server architecture.
- Author an image service.
- Create image service metadata.
- Edit and maintain an image service.
- Use an image service within a client application.

Price

ESRI Site: $980 (per seat)

Client Site: $7,640 (per class, up to 12 students)

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required.

Introduction to ArcGIS Server

IL Two days (16 hours)

Overview

ArcGIS® Server provides a complete server-based GIS system that supports the use of centrally managed spatial data for mapping and analysis. This course introduces ArcGIS Server and teaches a workflow for creating and sharing GIS maps, globes, and tools. Students learn how to publish maps, globes, and geoprocessing models that are optimized for performance and how to create out-of-the-box Web applications using ArcGIS Server Manager. The course covers using GIS services in both Web applications and ArcGIS Explorer. Installation and some configuration techniques for ArcGIS Server are also covered, but administration is not the focus of this course.

This course is designed for those new to ArcGIS Server who want to learn about its architecture, capabilities, and client applications. Those who would like to learn how to administer an ArcGIS Server production workflow should take *ArcGIS Server: Web Administration Using the Microsoft .NET Framework.*

Goals

After completing this course, you will be able to

- Understand the client and server components of the ArcGIS Server architecture.
- Describe the types of services available and the options related to each.
- Publish GIS services.
- Publish and consume geoprocessing tasks.
- Publish a geodata service for data replication and extraction.
- Access services using a variety of clients (ArcMap™, ArcGIS Explorer, and Web applications).
- Build Web applications that consume GIS services.
- Administer and optimize GIS services.

Price

ESRI Site: $980 (per seat)

Client Site: $7,640 (per class, up to 12 students)

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required.

"The class was well-put, and the instructor was a very good spokesperson and very knowledgeable on the subject matter."

—Kenny Canaday, BTSS Coordinator
White Oak Conservation Center
Yulee, Florida

Developing Applications with ArcGIS Server Using the Java Platform

IL Three days (24 hours)

Overview

ArcGIS® Server provides a set of software components and a framework for developing centrally managed GIS applications. This advanced course introduces the Java™ Web Application Development Framework (ADF™) and teaches how to build custom ArcGIS Server applications. You will learn the basics of JavaServer™ Faces (JSF); about the available libraries, application programming interfaces (API), and server development guidelines; and how to develop different types of Web applications. In course exercises, you will build JavaServer Pages™ (JSP™) Web applications that use ADF Web controls. You will also learn how to extend the ADF with custom buttons and tools through the new task framework.

This course is designed for experienced ArcObjects™ programmers who have Internet development experience using Java 2 Enterprise Edition (J2EE™) including JSP.

Goals

After completing this course, you will be able to

- Understand the components of the ArcGIS Server Web ADF.
- Understand the basics of JSF.
- Develop custom Web applications using the Java ADF Web controls.
- Programmatically implement out-of-the-box tasks in applications.
- Develop custom commands and tools using the task framework.
- Apply development rules for working with the ArcGIS Server SOAP and ArcObjects APIs in Web applications.

Price

ESRI Site: $1,470 (per seat)

Client Site: $11,460 (per class, up to 12 students)

Prerequisites and recommendations

Completion of *Introduction to ArcGIS Server* or equivalent knowledge is required. You should also have experience programming with J2EE and JSP. Familiarity with JavaServer Faces, Internet protocols, Web services, and the *ArcGIS Desktop Developer Guide* is recommended.

Developing Applications with ArcGIS Server Using the Microsoft .NET Framework

IL Three days (24 hours)

Overview

ArcGIS® Server provides a set of software components and a framework for developing centrally managed GIS applications. This advanced course introduces the ASP.NET Web Application Development Framework (ADF™) and teaches how to build custom ArcGIS Server applications. You will learn about the available libraries, APIs, and server development guidelines as well as how to develop different types of Web applications. In course exercises, you will build applications ranging from ASP.NET Web applications that use the ADF Web controls to ArcGIS Explorer custom tasks and server object extensions. You will also learn how to extend the ADF with custom buttons and tools through the new task framework.

This course is designed for experienced ArcObjects™ programmers who have Internet development experience using ASP.NET and the Microsoft® .NET Framework 2.0.

Goals

After completing this course, you will be able to

- Understand the components of the ArcGIS Server Web ADF.
- Apply development rules for working with the server API in Web applications.
- Develop custom Web applications using the ASP.NET ADF Web controls.
- Develop custom commands and tools.
- Build and deploy custom tasks using the Manager task framework.
- Use server object extensions and custom data sources.

Price

ESRI Site: $1,470 (per seat)

Client Site: $11,460 (per class, up to 12 students)

Prerequisites and recommendations

Completion of *Introduction to ArcGIS Server* or equivalent knowledge is required. You should also have experience programming with ASP.NET 2.0, COM, and ArcObjects. Familiarity with Internet protocols, Web services, and the *ArcGIS Desktop Developer Guide* is recommended.

"This class helped fill a giant gap in the knowledge of how to develop with ArcGIS Server."

—John Donoghue, GIS Program Manager
The Jones Payne Group
Tucson, Arizona

IL Instructor-Led   ILV Virtual Classroom   IL-PS Instructor-Led (Professional Services)   W Web   Learning Pathway

ArcGIS Server: Web Administration Using the Microsoft .NET Framework

IL Three days (24 hours)

Overview

To set up and successfully maintain a production ArcGIS® Server implementation in which GIS content is authored, published, and shared across the enterprise or on the Web, organizations need effective strategies to ensure performance, security, and reliability. In this course, you will learn about these strategies as well as be introduced to the ArcGIS Server architecture and tools for administering GIS services, users, and servers. In course exercises, you will learn how to configure service properties, optimize performance, set up secure servers, and apply hardware sizing. Advanced installation and configuration techniques will also be covered, with a focus on distributed installations and integration into an enterprise GIS.

This course is designed for GIS professionals, system administrators, and others who are tasked with supporting an ArcGIS Server system. GIS database administrators who need to learn strategies for setting up and maintaining multiuser geodatabases that use ArcSDE® technology should take *Data Management in the Multiuser Geodatabase, ArcGIS Server Enterprise Configuration and Tuning for Oracle,* or *ArcGIS Server Enterprise Configuration and Tuning for SQL Server* instead of this course.

Goals

After completing this course, you will be able to

- Describe the ArcGIS Server architecture.
- Work with ArcGIS Server administration applications for service and server management tasks.
- Understand how ArcGIS Server uses Web communication standards.
- Manage data used by ArcGIS Server.
- Understand how geographic analysis is performed on a GIS server.
- Optimize dynamic data transfer between clients and servers.
- Implement cached services to optimize performance.
- Work with authentication to restrict access to services and Web applications.
- Administer a secure server in a production environment.
- Perform a distributed installation of ArcGIS Server components.

Price

ESRI Site: $1,470 (per seat)

Client Site: $11,460 (per class, up to 12 students)

Prerequisites and recommendations

Completion of *Introduction to ArcGIS Server* or equivalent knowledge is required. You should also have a basic understanding of Web server technologies.

Learning ArcIMS

W Four modules (12 hours)—The first learning module is free.

Overview

ArcIMS® is ESRI's groundbreaking software that brings the power of GIS to the Internet. This course provides an overview of the basic features and components of ArcIMS and teaches the skills needed to create a basic ArcIMS Web site from start to finish. You will learn the components of ArcIMS as you create map content that can be served on the Internet and fine-tune ArcIMS Web site performance. In a course-long project, you will build an ArcIMS Web site from scratch.

This course is designed for those who want to offer GIS data and maps on the Internet or their local intranet. This course is appropriate for Web site developers as well as GIS professionals.

Goals

After completing this course, you will be able to

- Describe the components of an ArcIMS Web site.
- Author and publish map content.
- Design and deploy Web sites.
- Administer ArcIMS services, servers, folders, and site configuration with ArcIMS Administrator.
- Access ArcIMS support resources.

Price: $78

Required software

Before taking this course, ArcIMS 4 or higher and a supported Web server and servlet engine must be installed and correctly configured on your computer. You must have administrator privileges. This course does not teach Web server/servlet installation and configuration.

Prerequisites and recommendations

Completion of *Getting Started with GIS* or equivalent knowledge is required. Familiarity with Hypertext Markup Language (HTML) and Web site creation is also required.

Customizing ArcIMS
W Two modules (six hours)

Overview
ArcIMS® software allows organizations to get a basic GIS-enabled Web site up and running quickly. Going beyond the basics—by enhancing the site's appearance or offering additional functionality to site users—is often the next logical step for organizations that want to fully realize the benefits of sharing GIS data and maps over the Internet. This course introduces ArcXML™, the programming language of ArcIMS, and shows how ArcXML is an easy-to-use yet powerful tool for customizing ArcIMS Web sites. You will explore the structure of ArcXML and learn how to modify ArcIMS Web sites using ArcXML as well as HTML and JavaScript™.

This course is designed for GIS professionals, Web administrators, and system administrators who want to customize an ArcIMS Web site.

Goals
After completing this course, you will be able to

- Understand the structure of ArcXML.
- Use ArcXML to customize map content and functionality.
- Customize the appearance and functionality of ArcIMS Web sites with JavaScript and HTML.
- Apply customization techniques to both HTML and Java viewers.

Price: $52

Required software
Before taking this course, ArcIMS 4 or higher and a supported Web server and servlet engine must be installed and correctly configured on your computer. You must have administrator privileges. This course does not teach Web server/servlet installation and configuration. For this course, a typical installation of ArcIMS is recommended. In a typical installation, ArcIMS and your Web server are installed together on a single computer. A typical installation will make it easier to administer the software and services required for this course. Consult your systems or Web administrator if you are not sure what your Web server configuration is.

Prerequisites and recommendations
Completion of *Learning ArcIMS* or equivalent knowledge is required. Familiarity with HTML and JavaScript is beneficial.

GIS Portal Toolkit
IL-PS Three days (24 hours)

Overview
GIS portals organize directories, search tools, community information, support resources, data, and applications, thereby facilitating discovery, sharing, and delivery of GIS content and services. They provide capabilities to query metadata records for relevant data and services and link directly to the online sites that host content services. The ESRI® GIS Portal Toolkit is a combined technology and services solution for implementing local, regional, national, and global spatial data infrastructure (SDI) portals. It provides the necessary elements of a successful GIS portal through its framework, map viewer, administration, publishing, and harvesting modules. This course provides hands-on experience in developing a working GIS portal using GIS Portal Toolkit 3.1.

The course is designed for technical staff from an ESRI business partner, distributor, or distributor business partner who will implement the GIS Portal Toolkit for end users. Large commercial businesses or organizations with in-depth ArcSDE® and ArcIMS® experience may participate as well. After completing the course, ESRI business partners, distributors, and distributor business partners may offer implementation services for GIS Portal Toolkit.

Goals
After completing this course, you will be able to

- Understand different metadata standards and how the GIS Portal Toolkit supports these.
- Integrate the GIS portal into an enterprise GIS architecture.
- Implement a Java™/JavaServer Pages™ (JSP™)-based Web catalog portal that provides a home page, metadata search function, search results process, metadata publishing function, map viewer, and metadata catalog.

Price
ESRI Site: $1,470 (per seat)

Client Site: $11,460 (per class, up to 12 students)

Prerequisites and recommendations
The ability to create and troubleshoot ArcIMS services, author and design ArcIMS Web sites, administer a Windows® (or UNIX®) operating system, and manage site administration and database storage (Oracle® or SQL Server®) is required. You should also know how to create information on database users and assign their privileges, use spatial and tabular data from a GIS application, and have experience with XML and Extensible Style Language Transformations (XSLT). An understanding of ArcSDE and ArcIMS architectures and how ArcSDE interacts with the RDBMS is required. It will be helpful but not necessary that you know how to design tables, indexes, constraints, and triggers and be familiar with SQL and Java programming.

IL Instructor-Led **ILV** Virtual Classroom **IL-PS** Instructor-Led (Professional Services) **W** Web Learning Pathway

Implementing Tracking Server

IL-PS Four days (32 hours)

Overview

Tracking Server is a server solution product that works as a centralized hub for collection and dissemination of real-time data. Tracking Server provides a solution for collecting and sending real-time data from many data sources and formats to Web and desktop clients. As data is received by Tracking Server, you can log it to a geodatabase or retransmit it to both Web and desktop clients including ArcGIS® Tracking Analyst. With Tracking Server, you can receive, send, and display real-time messages on multiple clients; log data into geodatabases using the Tracking Server Feature Logger; create your own tracking Web site using tools available with Tracking Server; create and apply actions to data from real-time sources; and develop customized connections for the real-time message server.

This course is designed for experienced developers who have significant experience with ArcObjects™, Java™, C++, and COM.

Goals

After completing this course, you will be able to

- Install and configure Tracking Server.
- Administer Tracking Server.
- Use and share real-time data.
- Build and deploy a Tracking Viewer Web site.
- Create a customized real-time Web client.
- Use Tracking Analyst to receive real-time data from Tracking Server.
- Create a Tracking Server data link.

Price

ESRI Site: $1,960 (per seat)

Client Site: $15,280 (per class, up to 12 students)

Prerequisites and recommendations

Completion of *Introduction to Programming ArcObjects Using VBA* and at least six months' experience programming with ArcObjects, including experience with compiling C++ Active Template Library (ATL) COM programs, is required. Additionally, you should have experience in the Microsoft® Visual Studio® development environment; in programming with Java and Java Development Kit; and with Web application servers (such as Apache Tomcat™), Internet protocols, Web services, and Windows® system administration. Prior completion of *Extending the ArcGIS Desktop Applications* or *Developing Applications with ArcGIS Engine* is recommended.

Customizing ArcPad

W One module (three hours)

Overview

ArcPad®, ESRI's mobile GIS software product, can be customized to suit user needs and preferences for field data acquisition. This course provides an introduction to customizing the ArcPad interface using the ArcPad Application Builder product. You will explore the ArcPad Object Model and ArcPad Studio, the customization environment for ArcPad. Using ArcPad Studio, you will create a new toolbar containing standard and custom tools, build custom forms to collect data, and write scripts that interact with ArcPad software's internal objects.

This course is designed for those who want to customize ArcPad to expedite field data acquisition.

Goals

After completing this course, you will be able to

- Create a map in ArcPad.
- Create a form for collecting data in the field.
- Create a default configuration file to store a custom interface.
- Create a custom toolbar and add tools to it.
- Create a custom tool to allow users to update feature attribute data.
- Control which toolbars display by default in ArcPad.

Price: $26

Required software

To complete the exercises, ArcPad 6.0.1 or 6.0.2 or higher and ArcPad Application Builder 6.0.1 or 6.0.2 or higher are required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations

Completion of *Working with ArcPad 7* or equivalent knowledge is required. A working knowledge of Visual Basic®, Visual Basic for Applications, or VBScript is recommended.

Working with ArcPad 7
W One module (three hours)—Free

Overview

ArcPad® is ESRI's mobile GIS software that is used to capture, display, analyze, and edit geographic information in the field. This course provides an overview of ArcPad 7 and demonstrates some of its powerful capabilities. You will learn about the wide range of tools, symbols, and style sheets that come with ArcPad and how ArcPad is used to gather and edit data. The course emphasizes best practice principles and considerations for common field tasks.

This course is designed for those interested in learning how to deploy mobile GIS in their enterprise. Law enforcement officers, firefighters, utility workers, inspectors, soldiers, census workers, biologists, and others who collect and update data in the field may find the course of particular interest.

Goals

After completing this course, you will be able to

- Open a map in ArcPad and add layers to it.
- Change layer symbology.
- Find a feature that needs to be edited on a map.
- Edit feature attributes.
- Create a new shapefile in ArcPad.
- Digitize street features in ArcPad.
- Add attribute data for new features.

Price: Free

Required software

To complete the exercise, ArcPad 7 is required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations

Completion of *Getting Started with GIS* or equivalent knowledge is required.

Basics of the Geodatabase Data Model
W ⟳ One module (three hours)

Overview

The geodatabase is the latest data model created by ESRI for representing real-world features and storing geographic data. This course introduces the basic components of a geodatabase—tables, feature classes, feature datasets, and relationships. Together, these components form the building blocks needed for geographic data input, query, display, and analysis. You will learn how geographic data is stored in each of the four components and work with the ArcCatalog™ tools for exploring geodatabase components. The course also provides tips for organizing geodatabase feature classes.

This course is designed for those who are new to the geodatabase or who are considering migrating their geographic data from other formats to the geodatabase.

Goals

After completing this course, you will be able to

- Describe the four basic components of a geodatabase.
- View geodatabase components in ArcCatalog.
- Access feature class, feature dataset, and relationship properties in ArcCatalog.
- Identify the spatial reference for feature classes in a feature dataset.
- Preview data in ArcCatalog.
- View attribute data for feature classes in ArcCatalog.

Price: $26

Required software

To complete the exercise, ArcView® 9, ArcEditor™ 9, or ArcInfo® 9 or higher is required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations

Knowledge of Windows-based software for basic file management and browsing is required.

IL Instructor-Led   ILV Virtual Classroom   IL-PS Instructor-Led (Professional Services)   W Web   ⟳ Learning Pathway

Geodatabase Design Concepts

IL ☉ Two days (16 hours)

Overview

A well-planned and efficient design is critical to the success of a geodatabase implementation. This course explains the steps involved in the geodatabase design process, from preliminary planning to schema creation. You will learn how to take advantage of existing ArcGIS® data models and become familiar with data modeling techniques. A review of basic geodatabase concepts is included.

This course is designed for GIS data modelers, database designers, and analysts who are experienced ArcGIS users.

Goals

After completing this course, you will be able to

- Understand the structure and features of a geodatabase.
- Define a project and conduct a geodatabase needs assessment.
- Explore data and data models.
- Understand the geodatabase design process.
- Create a conceptual model for a geodatabase.
- Build a logical data model for a geodatabase.
- Build a geodatabase schema.
- Test the model and deliver a geodatabase.

Price

ESRI Site: $980 (per seat)

Client Site: $7,640 (per class, up to 12 students)

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* and *ArcGIS Desktop III: GIS Workflows and Analysis* or equivalent knowledge is required.

Building Geodatabases

IL ☉ Three days (24 hours)

Overview

This course provides an overview of the structure and capabilities of the geodatabase. You will learn how to create a geodatabase, migrate existing GIS data to a geodatabase, and edit and maintain data stored in a geodatabase. The course covers some advanced geodatabase topics including how to build geodatabase topology; maintain data integrity using subtypes, attribute domains, and relationship classes; and create a geodatabase schema. In course exercises, you will work with the file geodatabase and learn how to migrate personal geodatabase data to a file geodatabase and create various geodatabase components. This course is taught using an ArcInfo® license of ArcGIS® since many of the advanced features of the geodatabase require an ArcEditor™ or ArcInfo license.

This course is designed for experienced ArcGIS users who want to store data in a geodatabase and take advantage of advanced geodatabase functionality. Data managers will find this course of particular benefit.

Goals

After completing this course, you will be able to

- Understand the geodatabase structure.
- Explain advantages of a file geodatabase.
- Understand advantages of geodatabase validation rules.
- Load vector and raster data into a geodatabase.
- Create and apply attribute domains, subtypes, and relationship classes.
- Edit data using attribute domains, subtypes, and relationship classes.
- Create and edit geodatabase annotation.
- Create geodatabase topology and apply topology rules.
- Edit topological data.
- Perform geometric network editing and tracing.

Price

ESRI Site: $1,470 (per seat)

Client Site: $11,460 (per class, up to 12 students)

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* and *ArcGIS Desktop III: GIS Workflows and Analysis* or equivalent knowledge is required.

Creating, Editing, and Managing Geodatabases for ArcGIS Desktop

W Four modules (12 hours)—The first learning module is free.

Overview

The geodatabase is the ESRI® data model that allows features to be modeled more realistically than ever. This course covers all the basics and introduces the more advanced functionality that makes the geodatabase such a powerful data model. Course exercises teach how to create file geodatabases, add data to them, and assign behaviors to the data that allow geodatabase features to mimic real-world feature behavior. You will explore geodatabase functionality used to prevent data editing errors and ensure database integrity. You will start working with geodatabases immediately and learn the range of functionality that the geodatabase offers.

This course is designed for experienced ArcGIS® users who need to create and work with data stored in a geodatabase.

Goals

After completing this course, you will be able to

- Create a file geodatabase.
- Import data into a geodatabase.
- Create geodatabase feature classes and feature datasets.
- Modify spatial reference settings.
- Edit geodatabase features.
- Use map topology to edit spatially related features.
- Create attribute domains, subtypes, and relationship classes.

Price: $78

Required software

To complete the exercises, ArcView® 9.2, ArcEditor™ 9.2, or ArcInfo® 9.2 or higher is required. ArcEditor and ArcInfo users can complete all course exercises. ArcView users can complete three-fourths of the course exercises.

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required.

Using CASE Tools (for ArcEditor and ArcInfo)

W One module (three hours)

Overview

A solid database design is a crucial element of any GIS project. Computer-aided software engineering (CASE) tools provide an efficient means to design and create geodatabases. This course shows how to design, model, and automatically generate customized geodatabase schemas using three CASE components: Microsoft® Visio®, Unified Modeling Language (UML), and the ArcCatalog™ Schema Wizard.

This course is designed for GIS data modelers, database designers, and analysts who want to learn how to construct geodatabase schemas that fit their specific application needs.

Goals

After completing this course, you will be able to

- Use CASE tools to build a UML model that represents a geodatabase schema.
- Check a UML model for errors.
- Create a personal geodatabase schema using the ArcCatalog Schema Wizard.
- Create a diagram to model class inheritance.
- Model feature datasets, feature classes, and tables.
- Set properties for classes.
- Model subtypes and attribute domains.
- Test a model for errors.
- Update a geodatabase schema.

Price: $26

Required software

To complete the exercises, ArcEditor™ 9 or ArcInfo® 9 or higher and Microsoft Visio Professional 2002 or Microsoft Visio Professional 2003 are required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* or equivalent knowledge is required. Familiarity with Microsoft Visio is beneficial. Prior completion of *Building Geodatabases* or *Creating, Editing, and Managing Geodatabases for ArcGIS Desktop* is recommended.

IL Instructor-Led   **ILV** Virtual Classroom   **IL-PS** Instructor-Led (Professional Services)   **W** Web   Ⓢ Learning Pathway

Creating and Editing Geodatabase Features with ArcGIS Desktop (for ArcEditor and ArcInfo)

W Two modules (six hours)

Overview

ArcGIS® software provides advanced feature editing tools for the geodatabase. This course teaches how to use those tools to build a geodatabase from the ground up. In course exercises, you will practice using the ArcMap™ advanced editing tools to create and edit simple features and different types of annotation. The course also covers how to create features using coordinate geometry (COGO) descriptions and survey measurements.

This course is designed for experienced ArcGIS users who want to create and edit data stored in a geodatabase.

Goals

After completing this course, you will be able to

- Use standard sketch and advanced editing tools to create and edit simple and complex features.
- Create and modify feature attributes.
- Understand and apply techniques for accurate on-screen digitizing.
- Create features using COGO descriptions and survey measurements.
- Create and edit feature-linked and dimension annotation.

Price: $52

Required software

To complete the exercises, ArcEditor™ 9.2 or ArcInfo® 9.2 or higher is required.

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* and *Building Geodatabases* or *Creating, Editing, and Managing Geodatabases for ArcGIS Desktop* or equivalent knowledge is required.

"Keep up the good work. You really make people enjoy what they read in these modules."

—Claudette Hlatshwayo, GIS Technician
De Beers Group
Johannesburg, GT, South Africa

Creating and Editing Geodatabase Topology with ArcGIS Desktop (for ArcEditor and ArcInfo)

W Two modules (six hours)

Overview

ArcGIS® software provides full support for geodatabase topology including an advanced editing environment for maintaining topological relationships among features. This course explains how topology is implemented in the geodatabase and teaches how to use geodatabase topology to more accurately model the real world. The course emphasizes understanding and applying geodatabase topology rules to ensure that database integrity is maintained when features are created and edited.

This course is designed for experienced ArcGIS users who create and maintain GIS data that has topology and is stored in a geodatabase.

Goals

After completing this course, you will be able to

- Define feature spatial relationships.
- Create a geodatabase topology.
- Choose appropriate geodatabase topology rules.
- Validate a geodatabase topology.
- Investigate and understand topology errors.
- Correct topology errors using various tools.

Price: $52

Required software

To complete the exercises, ArcEditor™ 9.2 or ArcInfo® 9.2 or higher is required.

Prerequisites and recommendations

Completion of *ArcGIS Desktop II: Tools and Functionality* or *Learning ArcGIS Desktop* and *Building Geodatabases* or *Creating, Editing, and Managing Geodatabases for ArcGIS Desktop* or equivalent knowledge is required.

"The Creating and Editing series of courses is excellent for anyone dealing, or thinking of dealing, with geodatabases. I thoroughly enjoyed working through the course."

—Ryan Elizabeth Bowe, GIS Technician
Photo Science, Incorporated
Lexington, Kentucky

Working with Geodatabase Subtypes and Domains
W One module (three hours)

Overview

ArcGIS® software users can minimize data entry errors, save time during editing tasks, and improve database efficiency by using geodatabase subtypes and domains. This course teaches how to create and apply subtypes and domains to organize data and establish attribute validation rules in a geodatabase.

This course is designed for ArcGIS users who want to learn how to use subtypes and domains for improved geodatabase organization and efficiency.

Goals

After completing this course, you will be able to

- Explain what a subtype is and why it is useful.
- Explain what an attribute domain is.
- Describe two types of attribute domains.
- Create subtypes and attribute domains in ArcCatalog™.
- Edit data in ArcMap™ using subtypes and attribute domains.
- Validate features that have a range domain.

Price: $26

Required software

To complete the exercise, ArcView® 9.2, ArcEditor™ 9 or higher, or ArcInfo® 9 or higher is required. This course includes a streamed presentation. To view the presentation, a broadband Internet connection and Windows® Media Player software are required.

Prerequisites and recommendations

Completion of *Basics of the Geodatabase Data Model* or equivalent knowledge is required.

Arc Hydro: GIS for Water Resources
IL-PS Three days (24 hours)

Overview

Arc Hydro is a geodatabase design and set of accompanying tools that support water resources applications in an ArcGIS® environment. This course presents the Arc Hydro data model and tools and shows how to implement them through a series of real-world examples. The first day presents an overview of the data model and the tools, while the second and third days cover the details of Arc Hydro implementation and hands-on operations. You will learn the basic principles of the Arc Hydro data model, how to extend it, and how the Arc Hydro tools manage and use the data model. Advanced topics on customization of Arc Hydro and external model integration are also covered. All students will receive the ESRI Press book *Arc Hydro: ArcGIS for Water Resources* by David R. Maidment and accompanying CD with the tools.

The course is designed for those interested in ArcGIS water resource applications who want to receive hands-on training in Arc Hydro implementation.

Goals

After completing this course, you will be able to

- Understand and extend the Arc Hydro data model.
- Understand core and advanced Arc Hydro tools functionality.
- Combine Arc Hydro data structure and tools to solve real problems in water resources.
- Extend Arc Hydro tools (develop custom functionality).
- Integrate external models into Arc Hydro.

Price

ESRI Site: $1,470 (per seat)

Client Site: $11,460 (per class, up to 12 students)

Prerequisites and recommendations

A general GIS or water resources background is required. Familiarity with ArcGIS (ArcMap™ in particular) is beneficial but not required.

IL Instructor-Led   **ILV** Virtual Classroom   **IL-PS** Instructor-Led (Professional Services)   **W** Web   Learning Pathway

A learning pathway is a logical collection of instructor-led and Web courses designed to help you reach your training goals and achieve success. Each learning pathway provides high-quality, relevant training on a specific aspect of GIS.

After completing a learning pathway, you will possess knowledge and skills that can be applied directly to your job. You will also receive a certificate of completion at no additional cost.

Fundamentals of ArcGIS Desktop Pathway

The Fundamentals of ArcGIS Desktop pathway is designed for those individuals who are new to GIS and ArcGIS® Desktop. The courses in this pathway provide information on GIS concepts and the uniqueness of spatial data and explore how GIS can be utilized to solve problems and answer questions.

Fundamentals of ArcGIS Desktop Pathway   **IL** Instructor-Led Course **W** Web Course

1. Complete All Four Courses.

ArcGIS Desktop I: Getting Started with GIS	ArcGIS Desktop II: Tools and Functionality
IL ☐	**IL** ☐
Understanding Geographic Data	Understanding Map Projections and Coordinate Systems
W ☐	**W** ☐

2. Complete Two of Three Courses.

Creating and Maintaining Metadata Using ArcGIS Desktop	Turning Data into Information Using ArcGIS 9	Working with Rasters in ArcGIS Desktop
W ☐	**W** ☐	**W** ☐

3. Complete Three of Six Courses.

Basics of the Geodatabase Data Model	Customizing ArcMap: Easy Ways to Extend the Interface	Creating and Editing Labels and Annotation
W ☐	**W** ☐	**W** ☐
The 15-Minute Map: Creating a Basic Map in ArcMap	Understanding GIS Queries	Working with Map Topology in ArcGIS
W ☐	**W** ☐	**W** ☐

Minimum of 95 Hours

GIS Analysis Pathway

The GIS Analysis pathway is designed for GIS analysts and others performing vector and raster analysis. The courses included in this pathway cover fundamental ArcGIS® and GIS concepts as well as focused application areas and certain ArcGIS extensions.

GIS Analysis Pathway

IL Instructor-Led Course **W** Web Course

1. Complete All Three Courses.

ArcGIS Desktop II: Tools and Functionality	ArcGIS Desktop III: GIS Workflows and Analysis	Understanding Map Projections and Coordinate Systems
IL ☐	IL ☐	W ☐

2. Complete One of Three Courses.

Advanced Analysis with ArcGIS	Working with ArcGIS Network Analyst	Working with ArcGIS Spatial Analyst
IL ☐	IL ☐	IL ☐

3. Complete Two of Six Courses.

Geoprocessing with ArcGIS Desktop	Learning ArcGIS 3D Analyst	Learning ArcGIS Spatial Analyst
W ☐	W ☐	W ☐
Solving Disaster Management Problems Using ArcGIS 9	Spatial Analysis of Geohazards Using ArcGIS 9	Turning Data into Information Using ArcGIS 9
W ☐	W ☐	W ☐

Minimum of 100 Hours

GIS Data Production and Editing Pathway

The GIS Data Production and Editing pathway is designed for GIS technicians, specialists, and others responsible for creating and editing spatial data. The courses included in this pathway cover techniques and strategies needed to make spatial data the foundation of a successful GIS.

GIS Data Production and Editing Pathway
IL Instructor-Led Course   **W** Web Course

1. Complete Both Courses.

ArcGIS Desktop II: Tools and Functionality	ArcGIS Desktop III: GIS Workflows and Analysis
IL ☐	**IL** ☐

2. Complete All Four Courses.

Building Geodatabases	Creating and Maintaining Metadata Using ArcGIS Desktop
IL ☐	**W** ☐
Data Production and Editing Techniques	Geoprocessing with ArcGIS Desktop
IL ☐	**W** ☐

3. Complete One of Six Courses.

Creating and Editing Parcels with ArcGIS	Creating and Integrating Data for Natural Resource Applications	Introduction to Geoprocessing Scripts Using Python
IL ☐	**W** ☐	**IL** ☐
Introduction to the Multiuser Geodatabase	Linear Referencing with ArcGIS Desktop	QA/QC for GIS Data
IL ☐	**W** ☐	**IL** ☐

Minimum of 134 Hours

Geodatabase Management Pathway

The Geodatabase Management pathway is designed for GIS end users, managers, and administrators who are responsible for using, designing, implementing, or administering a multiuser geodatabase. The courses included in this pathway cover working with and connecting to multiuser geodatabases as well as techniques and strategies needed to install ArcSDE® technology, design a multiuser geodatabase, load data, and manage a multiuser environment.

Geodatabase Management Pathway **IL** Instructor-Led Course

1. Complete All Three Courses.

ArcGIS Desktop II: Tools and Functionality	ArcGIS Desktop III: GIS Workflows and Analysis	Building Geodatabases
IL ☐	**IL** ☐	**IL** ☐

2. Complete One of Two Courses.

Data Management in the Multiuser Geodatabase	Introduction to the Multiuser Geodatabase
IL ☐	**IL** ☐

3. Complete One of Four Courses.

ArcGIS Server Enterprise Configuration and Tuning for Oracle	ArcGIS Server Enterprise Configuration and Tuning for SQL Server	Geodatabase Design Concepts
IL ☐	**IL** ☐	**IL** ☐

Managing Editing Workflows in a Multiuser Geodatabase
IL ☐

Minimum of 96 Hours

Instructor-Led Training

The ESRI Learning Center processes all registrations for instructor-led courses listed in this catalog (including Virtual Classroom courses). You may also register online at www.esri.com/training.

Special Pricing and Volume Discounts

Special pricing is available for employees of the United States federal government and qualifying educational institutions, libraries, and museums. Employees of the United States federal government are also entitled to special pricing for on-site training classes. A 10 percent discount will be applied to any organization that purchases five or more individual student seats for a single class event (this discount is not offered for ESRI business partners). This discount applies to both instructor-led and Virtual Classroom training. For more information and eligibility requirements, contact

> ESRI Learning Center
> Telephone: 909-793-2853, extension 1-1585 • Fax: 909-793-4801
> E-mail: learnGIS@esri.com • Web: www.esri.com/training

Registration Application

A completed registration application is required from each student. It is recommended that you register at least one month before your class begins. Registrations are processed on a first come, first served basis. The most convenient way to register is through our secure online registration system at www.esri.com/training. The online registration system contains the most up-to-date class schedule and seating information. Online registrations will be acknowledged within two business days. Alternatively, you may download a registration application at www.esri.com/training to register for a class. Please enter all requested information, sign the application, and follow all submission directions on the application. You will receive a letter confirming your payment and seating status. Classes are confirmed approximately 10 business days before the scheduled class start date. Please consider this when purchasing nonrefundable airline tickets.

Payment

Prepayment is required and may be made by check (payable to ESRI), credit card, pre-existing contractual obligation, federal government training request, or purchase order (cash is not accepted). To complete your registration, proof of payment is required. Purchase orders for less than $800 will be accepted only from United States federal,

state, and local government agencies; United States educational institutions; and Fortune 500 companies. To reserve your seat in a training class, fax a copy of your registration form to the ESRI Learning Center at 909-793-4801 or register online at www.esri.com/training. Please mail your payment and a copy of your application to ESRI, File #54630, Los Angeles, CA 90074-4630.

Data Processing Fee and Refunds

Sales tax will be charged where applicable. The tuition amount includes a $100 nonrefundable data processing fee per class. The tuition less the data processing fee will be refunded if the ESRI Learning Center receives notice of cancellation at least six business days prior to the class start date. Full tuition will be charged if you cancel five days or less before the class start date or fail to appear for the class.

Transfers and Substitutions

You may transfer to another class up to two times at no charge, after which a $100 fee will be assessed for each subsequent transfer. Student substitutions (a student's place in class is filled by another person from the same organization) are allowed, provided that the ESRI Learning Center is notified in advance.

Class Schedule Changes and Cancellations

It is sometimes necessary to change the dates a class is offered or to cancel a class. You will be contacted at the earliest opportunity in the event of a scheduling change or cancellation.

Travel

Transportation to the training site is your responsibility. **ESRI assumes no responsibility for nonrefundable travel arrangement losses resulting from course scheduling changes or cancellations.**

Lodging and Meals

You can access a training location map and list of area hotels at www.esri.com/trainingmaps. You are responsible for making your own lodging arrangements. Meals are not provided.

Course Materials

All course materials are provided at the training site.

ESRI Virtual Campus Web-Based Training

ESRI Virtual Campus offers educational discounts worldwide to students and educators. Volume discounts are available for purchases of five or more courses at a time.

Online Orders

Registering and paying with a credit card online is the fastest and easiest way to purchase a self-study Web course from anywhere in the world.

1. Go to www.esri.com/training/catalog and find the course you want in the online course catalog.
2. Click Add To Order and follow the instructions to purchase.
3. Pay by credit card using our secure credit card processing system.
4. You will receive a course access code by e-mail immediately (all course materials are provided online).

Telephone Orders

To place a telephone order for a Web course, call 1-800-447-9778 Monday–Friday between 6:00 a.m. and 5:00 p.m. Pacific time. Payment by credit card, existing contract, federal training request, or purchase order* is required at the time of the order. A course access code is e-mailed to you after the order process is complete, approximately two to three business days.

Annual User License Orders

ESRI Virtual Campus Annual User Licenses (formerly known as Subscriptions) allow you to prepurchase self-study Web courses at a reduced price to provide training in your organization for one year. ESRI offers three types of user licenses, each covering a different set of courses. Order Virtual Campus Annual User Licenses by calling 1-800-447-9778.

For more information, go to www.esri.com/training/license.

Outside the United States

For courses, order online as described above or contact your local ESRI distributor for other ordering options. For subscriptions, contact your ESRI distributor. Visit www.esri.com/distributors to find the ESRI distributor near you.

For more information, visit www.esri.com/training.

*Purchase orders for less than $800 are accepted only from
United States federal, state, and local government agencies;
United States educational institutions; and Fortune 500 companies..*

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St. Paul
Redding
Madison Brookfield East Lansing
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Hartford
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Livonia
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Cedar City
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Richmond
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ALASKA

Alaska Pacific University
Carr-Gottstein Building, 2nd Floor, Room 225
4101 University Drive
Anchorage, Alaska 99508
(For information, call 360-754-4727.)

University of Alaska, Southeast
Math and Science Program Unit
Hendrickson Building, Room 105
11120 Glacier Highway
Juneau, Alaska 99801
(For information, call 360-754-4727.)

ARIZONA

EarthTouch Solutions (Training to You)
2200 North Central Avenue, Suite 100
Phoenix, Arizona 85004
(For information, call 303-449-7779.)

Northern Arizona University
Building 20, Room 333
Flagstaff, Arizona 86011
(For information, call 303-449-7779.)

CALIFORNIA

ESRI Learning Center, Redlands
380 New York Street
Redlands, California 92373-8100
(For information, call 909-793-2853,
extension 1-1585; fax: 909-793-4801.)

ESRI Learning Center, Sacramento
1600 K Street, 4th Floor
Sacramento, California 95814
(For information, call 909-793-2853,
extension 1-2604.)

California State University, East Bay
1000 Broadway, Suite 109
Oakland, California 94607
(For information, call 909-793-2853,
extension 1-2604.)

ESRI Authorized Partner Education Center
VESTRA Resources, Inc.
5300 Aviation Drive
Redding, California 96002-9379
(For information, call 530-223-2585 or visit
www.vestra.com/training/training.asp.)

COLORADO

ESRI Learning Center, Broomfield
One International Court
Broomfield, Colorado 80021-3200
(For information, call 303-449-7779.)

CONNECTICUT

Metro Hartford Information Services
260 Constitution Plaza, 1st Floor
Hartford, Connecticut 06103
(For information, call 978-777-4543.)

DELAWARE

University of Delaware
Penny Hall, GIS Classroom, Room 005
Newark, Delaware 19716
(For information, call 610-644-3374.)

ESRI offers training at the following ESRI and partner locations. For more information, visit www.esri.com/trainingmaps.

FLORIDA

ESRI Learning Center, West Palm Beach
303 Evernia Street, Suite 300
West Palm Beach, Florida 33401-5403
(For information, call 704-541-9810.)

ESRI Authorized Partner Education Center
Florida Community College
Center for Computer Education—Design Technology
601 West State Street, Suite 205
Jacksonville, Florida 32202
(For information, call 904-632-5097 or visit
www.opencampus.fccj.edu/ct.)

University of South Florida
Department of Geography
Natural & Environmental Sciences Building
Room 219/220
4202 East Fowler Avenue
Tampa, Florida 33620
(For information, call 704-541-9810.)

GEORGIA

ESRI Learning Center, Duluth
11465 Johns Creek Parkway, Suite 230
Duluth, Georgia 30097
(For information, call 704-541-9810.)

HAWAII

ESRI Learning Center, Honolulu
1357 Kapiolani Boulevard, Suite 1110
Honolulu, Hawaii 96814
(For information, call 808-947-0993.)

ESRI Authorized Partner Education Center
University of Hawaii, PACIFIC EMPRINTS
Biomedical Sciences, Building A108
1960 East-West Road
Honolulu, Hawaii 96822-2223
(For information, call 808-956-0891 or visit
www.emprints.hawaii.edu.)

IDAHO

Boise State University
GIS Facility, Room 135
1910 University Drive
Boise, Idaho 83725-1535
(For information, call 360-754-4727.)

ILLINOIS

Great Arc Technologies, Inc.
205 West Wacker Drive, Suite 1320
Chicago, Illinois 60606
(For information, call 651-454-0600.)

Northern Illinois University
Business and Industry Services at University of Illinois
1100 East Warrenville Road, 1st Floor
Naperville, Illinois 60563
(For information, call 651-454-0600.)

INDIANA

The Schneider Corporation
Historic Fort Harrison
8901 Otis Avenue
Indianapolis, Indiana 46216-1037
(For information, call 913-383-8235.)

ESRI Authorized Partner Education Center
The Schneider Corporation
Historic Fort Harrison
8901 Otis Avenue
Indianapolis, Indiana 46216-1037
(For information, call 317-826-7100 or visit
www.schneidercorp.com/gis.aspx.)

KANSAS

ESRI Learning Center, Leawood
8700 State Line Road, Suite 315
Leawood, Kansas 66206-1569
(For information, call 913-383-8235.)

LOUISIANA

ESRI Authorized Partner Education Center
Louisiana State University
Continuing Education
1225 Pleasant Hall
Baton Rouge, Lousiana 70803
(For information, call 225-578-3313 or visit
www.outreach.lsu.edu.)

MARYLAND

Enterprise Information Solutions, Inc.
9891 Broken Land Parkway, Suite 101
Columbia, Maryland 21046-3002
(For information, call 703-506-9515.)

ESRI Authorized Partner Education Center
Towson University
Center for GIS
7800 YR Building, Suite 307
8000 York Road
Towson, Maryland 21252
(For information, call 410-704-3887 or visit
www.new.towson.edu/outreach/cgis/training/
index.asp.)

MASSACHUSETTS

ESRI Learning Center, Danvers
One Corporate Place, Suite 300
55 Ferncroft Road
Danvers, Massachusetts 01923-4001
(For information, call 978-777-4543.)

MICHIGAN

Michigan State University
Remote Sensing & GIS Research
Geography Building, Room 219
East Lansing, Michigan 48824
(For information, call 651-454-0600.)

New Horizons Computer Learning Center
14115 Farmington Road
Livonia, Michigan 48154
(For information, call 651-454-0600.)

MINNESOTA

ESRI Learning Center, St. Paul
880 Blue Gentian Road, Suite 200
St. Paul, Minnesota 55121-1596
(For information, call 651-454-0600.)

MISSISSIPPI

ESRI Authorized Partner Education Center
Mississippi Institutions of Higher Learning
MARIS
3825 Ridgewood Road, Suite 717
Jackson, Mississippi 39211-3453
(For information, call 601-432-6149 or visit
www.maris.state.ms.us/HTM/Training1.htm.)

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ESRI Learning Center, St. Charles
820 South Main Street
St. Charles, Missouri 63301-3306
(For information, call 636-949-6620.)

MONTANA

University of Montana
Journalism Building, Room 106
32 Campus Drive
Missoula, Montana 59812
(For information, call 360-754-4727.)

NEVADA

College of Southern Nevada
Henderson Campus
Building B, Room 215
700 College Drive
Henderson, Nevada 89015-8419
(For information, call 909-793-2853,
extension 1-2604.)

NEW MEXICO

EarthTouch Solutions (Computer Corner)
4410 Menaul Boulevard NE
Albuquerque, New Mexico 87110
(For information, call 303-449-7779.)

NEW YORK

ESRI Learning Center, New York City
New York Info Tech Center
75 Broad Street, 4th Floor
New York City, New York 10004-2475
(For information, call 212-349-3700.)

ESRI Authorized Partner Education Center
Suffolk County Community College
533 College Road
Selden, New York 11784
(For information, call 631-451-4114 or visit
www3.sunysuffolk.edu/continuinged.)

NORTH CAROLINA

ESRI Learning Center, Charlotte
3325 Springbank Lane, Suite 200
Charlotte, North Carolina 28226-3343
(For information, call 704-541-9810.)

ESRI Authorized Partner Education Center
City of Charlotte
Technology Learning Center
600 East 4th Street
Charlotte, North Carolina 28202
(For information, call 704-336-3802 or visit
www.charmeck.org.)

ESRI Authorized Partner Education Center
City of Salisbury
Land Management and Development Department,
GIS Division
217 South Main Street
Salisbury, North Carolina 28144-4943
(For information, call 704-638-5246 or visit
http://gis.salisburync.gov.)

OHIO

ESRI Learning Center, Gahanna
1085 Beecher Crossing North, Suite A
Gahanna, Ohio 43230-4563
(For information, call 614-933-8698.)

OKLAHOMA

Oklahoma City Community College
John Massey Center
11919 South I-44 Service Road
Oklahoma City, Oklahoma 73173
(For information, call 210-499-1044.)

OREGON

Chemeketa Community College
Building 4, Room 272
4000 Lancaster Drive NE
Salem, Oregon 97305
(For information, call 360-754-4727.)

Portland Community College
1626 SE Water Avenue, Room 206
Portland, Oregon 97214
(For information, call 360-754-4727.)

University of Oregon
5246 University of Oregon
Eugene, Oregon 97403
(For information, call 360-754-4727.)

PENNSYLVANIA

ESRI Learning Center, Chesterbrook
Chesterbrook Corporate Center
1400 Morris Drive, Suite 102
Chesterbrook, Pennsylvania 19087-5512
(For information, call 610-644-3374.)

Harrisburg Area Community College
Three Penn Center, Room 249
349 Wiconisco Street
Harrisburg, Pennsylvania 17110
(For information, call 610-644-3374.)

Pittsburgh Technical Institute
1111 McKee Road, 3rd Floor
Oakdale, Pennsylvania 15071
(For information, call 610-644-3374.)

RHODE ISLAND

University of Rhode Island
Woodward Hall, Room 6
Kingston, Rhode Island 02881
(For information, call 978-777-4543.)

SOUTH CAROLINA

University of South Carolina
Department of Geography
Callcott Social Sciences Building
Columbia, South Carolina 29208
(For information, call 704-541-9810.)

TENNESSEE

**Consolidated Utility District of Rutherford
County (CUDRC)**
709 New Salem Highway
Murfreesboro, Tennessee 37129
(For information, call 704-541-9810.)

University of Memphis
FedEx Institute of Technology, Room 314
365 Innovation Drive
Memphis, Tennessee 38152-3115
(For information, call 704-541-9810.)

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ESRI Learning Center, San Antonio
227 North Loop 1604 East, Suite 100
San Antonio, Texas 78232-1260
(For information, call 210-499-1044.)

ESRI Authorized Partner Education Center
LandWorks, Inc.
2600 South Gessner Road, Suite 420
Houston, Texas 77063-3214
(For information, call 713-334-3030 or visit
www.landworks.com/training.)

North Central Texas Council of Governments
624 Six Flags Drive, Room 128
Arlington, Texas 76011
(For information, call 210-499-1044.)

ESRI Authorized Partner Education Center
TeachMeGIS
3000 Wilcrest Drive, Suite 195
Houston, Texas 77042
(For information, call 713-278-7883 or visit
www.teachmegis.com.)

UTAH

ITS-AGRC Training Center
B108 State Office Building
Salt Lake City, Utah 84114
(For information, call 303-449-7779.)

Southern Utah University
Electronic Learning Center, Room 311
351 West University Boulevard
Cedar City, Utah 84720
(For information, call 303-449-7779.)

VIRGINIA

ESRI Learning Center, Vienna (Tysons Corner)
8615 Westwood Center Drive
Vienna (Tysons Corner), Virginia 22182-2218
(For information, call 703-506-9515.)

Virginia Commonwealth University
Center of Environmental Studies
Life Sciences Building, Room 103
1000 West Cary Street
Richmond, Virginia 23284
(For information, call 703-506-9515.)

WASHINGTON

ESRI Learning Center, Olympia
606 Columbia Street NW, Suite 300
Olympia, Washington 98501-1099
(For information, call 360-754-4727.)

King County GIS Center
Computer Training Room
King Street Center, Suite 7289
201 South Jackson Street, 7th Floor
Seattle, Washington 98104
(For information, call 360-754-4727.)

WEST VIRGINIA

West Virginia University
Department of Geology and Geography
White Hall, Room 312
135 Willey Street
Morgantown, West Virginia 26505
(For information, call 703-506-9515.)

WISCONSIN

R.A. Smith & Associates, Inc.
16745 West Bluemound Road, Suite 200
Brookfield, Wisconsin 53005
(For information, call 651-454-0600.)

ESRI Authorized Partner Education Center
University of Wisconsin
Land Information & Computer Graphics Facility
(LICGF)
B102 Steenbock Library
550 Babcock Drive
Madison, Wisconsin 53706
(For information, call 608-263-5534 or visit
www.lic.wisc.edu/training.)

WYOMING

University of Wyoming
Wyoming Geographic Information Science Center
(WyGISC) Lab
Agriculture C Building, Room 316
1000 East University Avenue
Laramie, Wyoming 82071
(For information, call 303-449-7779.)

ESRI Authorized Partner Education Center
University of Wyoming
Wyoming Geographic Information Science Center
1000 East University Avenue
Laramie, Wyoming 82071
(For information, call 307-766-2532 or visit
www.wygisc.uwyo.edu.)

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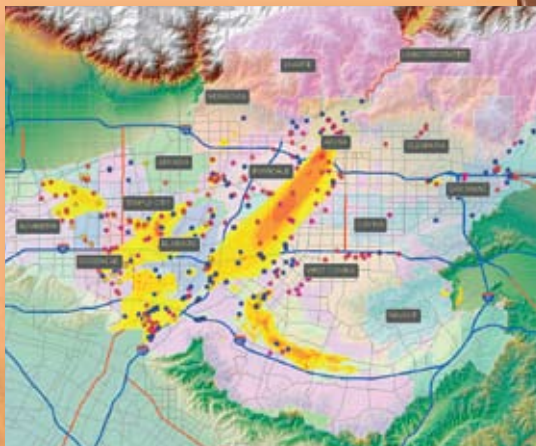**ESRI**
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